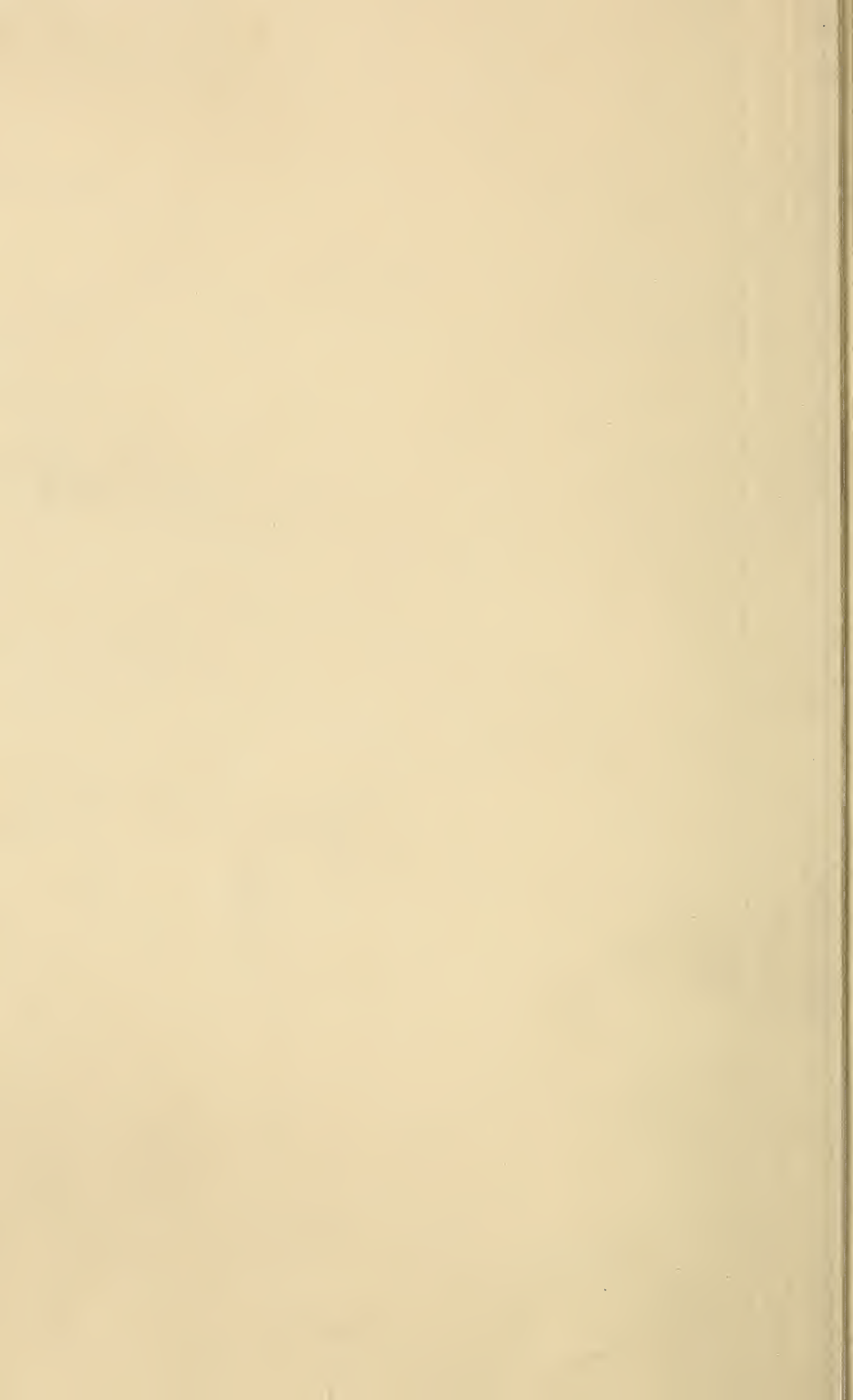


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MAR. 15, 1900

No. 6.



L. STACHELHAUSEN, although an American, is better known among German than American bee-journals. German is his mother tongue, and he knows how to use it well.

FOR ERYSIPELAS, Dr. Haywardt recommends poultices of honey renewed every 3 or 4 hours. It immediately relieves pain, and brings convalescence in 3 or 4 days.—*Praktischer Wegweiser*.

IN THE WINDOW where I sit, in a little pot is an English violet with 24 blossoms. It doesn't make much show, but, oh how sweet! But a promise of show lies in 16 rosebuds in the same window.

THE RECIPROCITY TREATY with France, now pending, reduces the French tariff on beeswax a third. That will please Americans who have beeswax to sell, and displease those who have foundation to buy.

THE QUESTION is sometimes asked, "Will freezing kill foul brood?" Bacteria have been subjected to a temperature 216 degrees below the freezing-point, leaving them healthy and happy. Heat, not cold, must be our dependence.

I'M INTERESTED in that Bingham cellar. He says 2 lbs. dead bees swept out per month. Now, does that mean on the cellar bottom, or in the hives as well? There might be only 2 lbs. on cellar floor, and ten times as many on hive floors.

THAT BOTTOM-HEAT idea of Aikin's solar extractor is bright. We might have smaller extractors with a lamp for bottom heat. [Yes, I have thought of the same thing. If bottom heat is a good thing on a large scale, why not also on a small one?—ED.]

THAT'S NO JOKE about smokers in Germany that work automatically, sending a continuous stream of smoke. Next time I come across a picture of one I'll send it to you. But I doubt it's being so very desirable, as lately nothing seems to be said about it.

BRITISH BEE KEEPERS have also been discussing the matter of having some way of gauging shades of color in extracted honey. Strips of colored paper, a colored plate sent out in *British Bee Journal*, colored glass, and small bottles of honey, have been proposed.

MRS. HARRISON says it's a mystery where the Florida bees get pollen in winter. That's a mystery not confined to Florida nor to winter. I've seen bees bring pollen on a mild day after every thing was frozen up, and I've known them to store honey when I could not make out the possible source. If Doolittle had been here, he'd have found out.

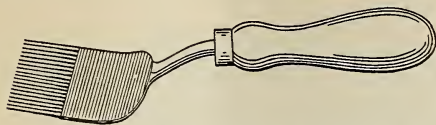
FRIEND A. I. ROOT, that Home talk, p. 181, fairly takes my breath away. If all would stand up as you have done, the party bosses would soon learn that the Christian manhood of the nation is a factor that must be reckoned with. Strange that so many good men have for so long submitted to be "like dumb driven cattle." Lately I was disgusted to hear a minister in the pulpit instructing the Lord in his prayer that McKinley was doing the very best he knew how. Bah!

TO START CUTTINGS.—Nail a bottom on a dovetail hive-body. Nail on a leg at each corner; fill half full of earth, and cover with two panes of glass. That's your greenhouse. Set it by the window in winter; in summer, anywhere not in the broad glare of the sun. Put in it your little dishes of wet sand with cuttings in them, and watch them grow. Florists will tell you to have bottom heat, and, of course, that would be better; but I never used bottom heat, and have rooted many a cutting.

"NATURAL SWARMING has a fascination about it that no mode of artificial increase can possibly have."—G. M. Doolittle, p. 176. I don't in the least doubt that's true from your standpoint, Bro. Doolittle. Years ago the issuing of a swarm meant to you desired increase, and a glamor was thrown over the whole affair that will never fade away. With me there's a fascination about artificial increase; but there never was any about natural swarming. The announcement of a swarm fascinates me just about as the announcement that the cows have broken into the garden.



THE UNCAPPING-FORK seems to receive only praise in German and French journals—works more easily and rapidly than the knife,



works well on tender and uneven combs, and costs less than the knife. Has any one tried it on this side?

DON'T GET things mixed. Soiled sections and greasy sections, more properly watery sections, are two quite different things. Soiled sections, covered with so-called travel-stain or greasy-looking bee-glue, may be found over all colonies in certain honey-flows, and especially at the close of the honey-flow. Greasy or watery sections, caused by lack of air-space between honey and capping, may be found over certain colonies at any and all times without regard to season or honey-flow. A section may be soiled and not watery; it may be watery and not soiled; or it may be both. [I suspect we have been a little careless in the use of terms for designating certain faulty boxes of honey. If so, let us use that phraseology which will describe the exact condition. But water-soaked comb honey, so called, and greasy comb honey, are practically synonymous terms to most people.—ED.]

MESSRS. MCLEAN AND WHITNEY have explained how greasy sections depend on the honey-flow and conditions. Now, friends, please explain this: I had a colony of Punics which made greasy sections all through the season, fast flow or slow flow, while other colonies made white sections. Also, last season I had a colony which made paper-white sections in a very slow flow, and all through the season, and no other colony did quite so white work at any time—same apiary, same shade, same conditions. Another thing: When the Punics had filled but not yet sealed a super of sections, I gave it to another colony, and it was sealed white, while the sections left on the Punic were sealed greasy. [Then you agree with Mrs. Barber and others that the queen or the bees, rather, do have a good deal to do with the greasy-section question; but it seems reasonable to me that weather conditions may have some slight effect, although it is probable that the kind of bees has the most to do with the matter.—ED.]

THAT BEST RESULTS in surplus honey could be obtained by allowing one swarm from each colony, was, I think, once the general belief. Gradually that belief has faded away, and able men who formerly advocated it are now among those working most diligently to secure non-swarming. [But are you sure you are right, doctor? It strikes me that most authorities still think that the one-swarm plan is the best under most conditions. Do you know of any non-swarming method for the production of comb honey that is regarded as practical for every one? The caged-queen plan is used very successfully by a few of the

largest bee-keepers of New York, but a good many others do not like it. I had hoped that the large-brood-chamber method might be productive of good results, but many again declare this is not a success.—ED.]



Old Sol has reached th' equator's line;  
The 20th he'll crawl over,  
And call to life the dormant buds,  
The flowers, the grass, the clover.

His face (a million miles across)  
Is clothed with smiles and blessing;  
He drives the fogs and damps away,  
The earth with beauty dressing.

The sun! the sun! he darts his rays  
O'er ninety million miles;  
The sick revive, and bless the day  
That brings his vernal smiles.



#### AMERICAN BEE JOURNAL.

Prof. Cook tells us of a Mr. Clark, in California, who has a spring situated some distance to the west of his apiary in the canyon. He had a fine Jersey cow which he used to picket out to feed. The forage was especially good between the apiary and this spring. Mr. Clark observed that the bees were flying toward the spring for water in great numbers, yet the good feed tempted him to picket the cow on this line, as the apiary was some distance from the place, and he apprehended little or no danger. Yet the fact that there were so many bees did raise a question in his mind, but, not knowing that cattle were unlike horses, he picketed the cow slightly, so she could get away in case of an attack. At night, when Mrs. Clark went to get her, the cow was cold in death, and a great many bees were dead around her. Mr. Cook adds: "There are several facts in this account that I think are of special interest, and should be noted by all bee-keepers. The first is, that the instincts of the cow when she is stung will not lead her to run away as would be the case with the horse, and she stands by until stung to death. Mrs. Clark told me the cow was very close to where she was picketed. She had pulled the stake up so she could have run away if she had been so disposed. . . . If Mr. Clark had discovered his cow at the beginning of the attack, and had led her into an enclosure, the bees, of course, would have left at once, and would have ceased the attack. If this had been followed by the use of wet blankets, very likely the cow's life could have been saved, even though she might, at the time, have received thousands of stings." By the way, Rambler gives an interesting account of his visit at Mrs. Clark's apiary, together with a picture of that lady, on pp. 940, 1, in GLEANINGS for 1895. Those having back numbers will do well to turn back and read this article.

## BRITISH BEE JOURNAL.

The value of honey imported into the United Kingdom during last January was \$6860.

The expert of the Cheshire Bee-keepers' Association examined, in 1899, 1229 frame hives and 130 skeps. That probably shows to what extent the new has supplanted the old in England—ten to one.

Mr. John Kibble, of Charlbury, speaks of "a bee-keeper who has lost sixteen stocks of bees through the hives being immersed or swept away by the flood. It thus follows that, in locating bees, one not only needs to provide shelter from the biting blast, but to make sure the spot selected is high and dry. It must be dreadful to a bee-man to find some morning that his hives have gone sailing off on the flood, to say nothing of the pecuniary loss."

In regard to Mr. Doolittle's claim, that 92 degrees is the lowest point consistent with successful brood-rearing, one writer says he had the ill luck to break one of the outside sheets of glass. As a result the temperature was lowered, and in the day time stood more than once at 64 degrees. In the night it probably went lower, he thinks. All this time egg-laying went on, and without exception the brood hatched out successfully. He adds, "Hence I think that Mr. Doolittle, admirable guide as he is, is for once in error."

A view of Mr. Miller's apiary is given, located at Castle Combe. If one likes variety of hive, here we have it. The apiary contains sixteen hives, each as different from the others as the 25-story sky-scrapers in New York and Chicago are from the little rookeries beside them. Mr. Miller secured last season 1252 lbs. of honey, half comb. He says: "All is sold, but not at the fancy prices mentioned in the journals recently. In fact, there is little chance in this district to sell retail while good sections of honey gathered in 1899 were marked in windows at Bath and Bristol at 9 and 9½ pence each."

Mr. W. Loveday, of Hatfield Heath, says: "I kept some 1-lb. sections of the honey-dew stored by my bees in 1898 for over 12 months, and I find that, besides being quite wholesome, honey-dew keeps very well; in fact, I think it improved by keeping, losing some of the strong flavor that is usual with it." Mr. Loveday thinks there are very few places in England where a shilling (24 cents) per lb. can be had for honey other than heather. He says he recently saw extracted honey advertised at 6 pence per lb., jars included. That would be equivalent to 12 cents a pound here, or 9 cts. for the honey alone. I feel pretty sure the California people would be glad to sell all their honey at that rate.

A correspondent well says: "I have been glad to read that many are making 10 pence to 1 shilling (24 cents) per pound for their honey; but on the other hand it seems there

are plenty who are not so fortunate, and I think there is no good in publishing the *lowest* prices. The fact of our reading or hearing that some one has bought or sold honey at the lowest price is no guide as to its real worth. Some people sell their surplus at any price just to get it off their hands, only keeping bees for a hobby, and ignoring the poor fellow who is trying to sell his honey to help to keep the wolf from the door. Others lose their heads, it seems, when there is a glut, and the dealer buys from them at a ridiculous price, to sell at a good profit to himself."

Concerning bumble-bees, a writer says: "They rapidly dwindle and perish as soon as the cool autumn days begin to be felt. From this period on until the sun has again become fairly high in the following spring, the bumble-bee continues its existence solely through its young queens, which spend the winter in solitary confinement, having burrowed into the ground and there buried themselves to a depth of from 6 inches to a foot or more. They remain in a torpid condition till spring, when they wake up and set to work to establish fresh colonies." Wouldn't it be a good idea to have a law to protect these useful creatures as well as the feathered tribes? I don't believe they have ever been appreciated as they should be.

A correspondent asks the strange question if there is any analogy between brood foundation and "weed" foundation; also if glucose in the solid form (grape sugar) is a good bee-food. The editor replies: "Brood foundation is the kind used in brood-nests as distinguished from the much thinner and better quality specially made for use by the bees when storing honey in surplus chambers. On the other hand, 'weed' foundation takes its name from an American gentleman (Mr. E. B. Weed) who invented the new and improved process of sheeting by which it is manufactured. Glucose is not only entirely unfit for bee food in any shape, but we doubt very much if bees would touch it in the form sent. The very name of glucose used in connection with bees is hateful to all honest bee-keepers, by whom it is regarded only as the adulterant sometimes fraudulently used by unscrupulous persons in contact with honey gathered by bees."

## AMERICAN BEE-KEEPER.

A correspondent says:

The first step toward scientific comb-honey production is the selection of the bees. Any bee that will gather honey will do for extracted honey, but not so for comb. Only those colonies should be selected that are nearest perfect as comb-builders, and whose capings are the whitest. Only such colonies as these must be used as breeders. No drones must be allowed to fly from any colony, except those having these desirable qualities. No queen must be reared from any but colonies having these qualities.

That "an apiary is a place where they grow apes," as expressed in the composition of a little schoolgirl, is rather contradicted by one of our amateur subscribers, who says he has "found out that bee-keeping is no monkey business."





## ORGANIZED MARKETING.

### How the Fruit-growers Protect their Interests.

BY R. C. AIKIN.

A few years ago there was much said about "protective tariff." For awhile I scarcely knew whether I was a tariff man or not; but after listening to speeches, and reading printed matter on the subject, I concluded there was something in a tariff that was contrary to the golden rule. It occurred to me that all men were brothers, whether divided by a county, State, or national boundary, and that a brother on the other side of the "great pond" was as much a brother as on my own side.

A change has taken place. We have grown as a people and nation, till now ordinary national boundaries will not hold us. Our commerce has become immense, and is handled on a gigantic scale, and by great combinations. There is united effort being put forth in almost every line, till he who tries to do business other than in a wholesale way, except to live and deal with his *immediate neighbors*, can not cope with the powerful competition met everywhere. While it is unquestionably the business of governments to manage—at least to *control*—all the great public interests, it is not so done, but is left to the management of private corporations. Private interests are selfish in their nature, hence oppression frequently results.

I do not say that all combinations and unions of private nature are oppressive; but their tendency is to selfishness and discrimination; they can not be for the *general* good as if under general control. One railroad company in one or more States tries to draw and centralize business to its own territory to the detriment of another road's interests, and this is but an illustration of what is true of all competing interests in more or less degree. A tariff is put up against some other concerns' interests that works a hardship on *somebody*.

Fifty years ago almost every family was self-supporting. Whatever we had in the way of food, clothing, tools, or other necessities or conveniences, was made at home or done without. Now we live in luxury as compared with those days. The great combination of capital and united effort gives us comforts and conveniences that were not dreamed of a few years ago. Combination specializes. Specialism makes us more dependent one on another. Transportation facilities have made it possible for special farming, manufacturing, etc., where these things could not exist but for the facilities, and these very things tie us together in a way that we must depend on one another or

cease our special pursuits, and move back into the woods and carve out for ourselves an old-fashioned home.

But soon there will be no place left for us to make a home; and if there were such a place, we would not leave the luxuries of the present day to take up the ways of fifty or one hundred years ago. I say we would not do it; and if we will not we must adapt ourselves to the present and follow the tide or be driven down. Organization and combination are dominant to-day. There is nothing wrong in this either; it is only the *abuse* of it that is wrong. Unquestionably, combination rightly used means the most good to the greatest number; were it otherwise, what would be the use even of government? Government is a combining and organizing to bring good to many.

I do believe that there is now altogether too much divorcing of combination from its proper channel—government, to the hands and power of private corporations; but this being true only intensifies the necessity of our combining as a protection that we may stand against combination improperly used or applied. The greater the extent of our commerce reaching out to distant fields and peoples, the greater the necessity of united and harmonious action. To-day it is bread from one State, iron from another, coal from some other district, and so on through the list of commodities, until we can not live except by one another's help. "We are all members of one body," and when one suffers all suffer. Oh that men could see that to afflict a fellow-mortal is to hurt self! But we are blind, and destroy one another, and so injure ourselves.

What, then, is the duty of bee-keepers of to-day? It is to help each other. Unite and stand together; do it for mutual help and mutual protection. Do it because we can not do much if we do not unite. To lie still and wait is to let a brother suffer for the help we could and ought to give.

As shown by the foregoing, we can not properly market unless we are united and co-operating. Every producing locality should work together; and when the product is to be transported to distant markets, instead of shipping by less than car lots, and paying much higher rates, combine and ship at car rates, saving considerable in freight, and obtaining a safer shipment. If our product were as common as wheat, corn, potatoes, live stock, and such, in the centers of production for these things, the case would be different. The former products are produced in such quantities, and the demand for them so great, that there are open markets and facilities for handling the goods at all times. Not only the facilities to do the business, but buyers in charge are constantly informed as to the market value of the article. They are bought at all times, and cash paid.

Honey production is more limited in any given location. Even the *best* producing localities scarcely justify special effort in places to receive and handle the goods, or get market quotations. Honey is not produced in sufficient quantity, nor kept through the whole year, to justify or induce the establishment of depots, or enough certainty to make one safe

in putting time and money into it as a business, hence it becomes a side issue, and subject to too many difficulties and excessive margins to make the buyer safe.

To overcome these difficulties the only way is for the people of a district, say township, county, or State, to co-operate and handle their surplus from a common point, and by a common management. Other producing lines are not all so organized; but the most of them do have the advantages hereinbefore detailed, that give them reasonable service and cash at the producing point. But honey is subject to great risks and inconvenience, much of it "consigned" to unknown or untrustworthy dealers, to be handled *without proper intelligence* of how and when and what to do with the goods. When such is the case, can we wonder that there is dissatisfaction and complaint?

I can very nicely illustrate our needs by describing a local organization of fruit-growers of which I am a member. There is quite an industry here in growing strawberries, raspberries, blackberries, and some other small fruits. Individual producers were in the habit of shipping their own products, and all such goods are decidedly perishable, and must be disposed of at once, and with the least possible delay. Spot-cash deals, aside from local sales, were altogether out of the question. The fruit *must* be sold by consignment. The small producers could not have access to or afford the expense of commercial reports of standing of firms, hence the shipments were made, as it were, at random. The fruit must go somewhere, and go quick, or all be lost.

The result was that many times the fruit was all consigned to one already overloaded firm, while others were without. Some was sent to irresponsible firms, etc., entailing in various ways severe losses on the shipper. That is how it was when there was no organization. Honey is not so perishable; but do you not see that we are in the same general sea of difficulties?

At last we organized. The plan is a general organization in the usual form, with presiding officer, and a secretary and treasurer.

A small annual fee of 50 cents is charged each member. An annual meeting is held for the election of officers, election of a manager or salesman, ordering of supplies, and discussion of any subject of interest. One *business house* is chosen as selling agent, and this house has the *entire* management of shipping and collecting on shipments the individual members picking and delivering fruit at stated times at depot for certain trains.

The manager or shipping agent puts himself in communication with all possible customers or outlets for the fruit, selects his customers before the fruit is ready, has access to commercial reports, etc., and when the shipping season is on he gets daily quotations showing supply, demand, and prices in the various localities. The growers deliver the fruit some time before trains are due out, and the agent ships according to supply and demand. If the supply here exceeds orders, he divides the surplus, shipping it to the market that is most

likely to be able to use it, favoring the most reliable customers. This avoids a glut in one place and a scarcity in another, and results in far less numbers of losses, both of overripe or soft fruit because of delay, and in defaults of payment by irresponsible firms. Besides the saving to shippers in this way, any unavoidable losses are prorated among the members, and the whole association bears this loss, and not individuals.

While honey is less perishable, and can be handled with more certainty, it is fairly represented in this fruit business. Fruit and honey interests might well go together where there is but a limited product of each; but whether united or separate, the advantages of organized effort are *decidedly* in favor of the united work. I am but a small producer of fruit; but whether little or much, I pick and deliver my fruit to the depot, and then my care ends, the agent shipping to so much better advantage than I can do it, that, after his commission is paid, I still have more for my produce than I could get for it myself.

Loveland, Col.

[I see that Mr. Aikin has told us nothing as yet of the organized effort to sell Colorado honey. Perhaps he will do so later.—Ed.]



#### CANDIED HONEY, AND WHY.

Mr. R. C. Aikin is receiving deserved credit for working up a market for candied honey; and while I think of it, I wish to mention one point in the scheme that has been overlooked. You all know that, when the purchaser gets to liking candied honey, he will eat more of it than he will when it is in the liquid state.

"Oh! but," you say, "each person is supposed to liquefy the honey;" but I think that, when a person gets to eating his honey in lumps, he will not want to liquefy it, and there will be much more consumed, and probably the best way to sell a barrel of candied honey is to set it up in the store window, take off the staves and then sell it by the chunk. That's the way Mr. McNay says they do in Northern Wisconsin. Let the good work go on.

#### PHONETIC SPELLING WITH A VENGEANCE.

Under phonetic spelling, the *B. K. Review* says: "They simply compel us to unlearn one unphonetic way of spelling a word and learn another unphonetic method." There is just where the objection comes in in my case. I like new things and novelties, and—why, I heard of a fellow once whose name was Peter Hole, and when he would write his name he would write Peter and jab his pen through the paper for the hole. Of course, that was Peter Hole, and the hole was phonetic with a vengeance. As Peter's method can not be adopted in a general way I thought I should like the new way as practiced in the *American*



*Bee Journal*, and commenced work upon it with considerable enthusiasm; but I made a dismal failure of it; for every time I set out on the new line of spelling, the subject-matter of the article or letter would claim my whole attention, and unconsciously I would be spelling right along according to the old way. It cost me several years of close application to

it is the poor fellow's only amusement, and we shall have to put up with it.

#### HOW LUCK CHASES THE WISCONSIN BEE-KEEPERS.

I was spinning up Figueora St., in Los Angeles, the other day, and met a gentleman and lady also on wheels. We both shouted "hel-



CALIFORNIA HOREHOUND.

spell the old way, and I will leave it to the editor that I am tolerably good at it, and I have come to the conclusion that I will let well enough alone, and not bother any more trying to learn the new way. I was just thinking that it must take the editor of the *American Bee Journal* an immense amount of time to "queer over so many words; but I suppose

lo!" in concert, turned our steeds to the sidewalk, dismounted, and had a little visit. The gentleman I had run against was Mr. Frank McNay, that wealthy bee-keeper from Wisconsin, and the gentleman who went on a Crow-hunt with me last winter. Mr. McNay spent the honey season in Wisconsin with his bees, secured a fine crop of honey, sold it for



a good price, and now with his wife and niece he is to winter again in our beautiful city; and just think how luck will chase around after some people! He has a small apiary already. The very house he rented, and behind the wainscoting of the very room he occupies, there is a fine swarm of bees. All he has to do is to rap on the wall in the night, and say, "Are you there, my pets?" and for answer there comes a bu-z-z-z. But now I have a sequel to my little story. Mr. McNay has concluded to make Los Angeles his permanent dwelling-place, and has purchased a fine residence in the fashionable portion of the city. Here is an example for almost any of those prosperous Eastern bee-men. I can not really understand why Wisconsin should be so extra prosperous; but it must be, for there is another bee-keeper from Ashland, that State, and his wife is with him. This is Mr. Smith—John, I guess. He called just to see the Rambler, and he said there was another bee-man in Wisconsin who told him not to fail to call upon the Rambler if he ever struck Los Angeles. I was somewhat under the weather when Mr. Smith called, and when I made a remark about my condition he hitched his chair up close and remarked that he was very deaf. "Oh dear!" said I to myself, "I am in for it now." But do you know Mr. Smith was the best deaf man I ever talked to? All I had to do was to say a word now and then, and Mr. Smith did the rest. Mr. Smith had such a cheery, hearty way with him that I actually felt better for his little visit. When he went away he said his wife wanted to see me, "and," said he, "she is a greater talker than I am." "Merciful heavings!" said I, "is that possible?" But he didn't hear me. I am sure I shall have a good visit with Mrs. Smith. I think the more of these Wisconsin people we get here the better it will be for us. I expect that Mr. C. A. Hatch will drop in upon me some day in the future. Mr. Hatch is a very good man, but a little premature on the housekeeper problem—i. e., housekeeper for the Rambler. I suspect Mr. Smith will be a little troublesome in the same way.

#### NO RAIN FOR SOUTHERN CALIFORNIA.

At this date, Feb. 9, we bee-men are getting anxious again about rain. Jan. 3 was the last rainfall we had, and things begin to look dry, and some of us begin to feel like flying to some other portion of the country, and even this flying may be to ills that we know not of. I was in my apiary yesterday, thinking of the ills that would come if we had another month of such weather, when there came a h-e-l-l-l-l-l-o! I thought he strung the / out rather long, but I shouted back a passably cheerful h-e-l-l-l-o! and who should make his appearance but Bro. Brodbeck? Well, we had a blue talk. I tried to be bluer than he was, but I couldn't match him; and before he went away I felt like apologizing to him for even trying to be bluer than he was. Well, if we have no more rain this winter there will be not a few blue bee-keepers. But we bee-men always part with the remark, "Of course, we shall have plenty of rain yet; there is time enough in

March and April," and, having said this, we try to feel happy.

#### WILD DREAMS.

Glad you came to my defense upon that automobile matter, Mr. Editor. Dr. Miller terms it Rambler's "wild dream," and Editor York, in the *Amer. Bee Journal*, terms it "sportive." Now, to come down to solid facts, there is nothing wild or sportive about it—it is a thing and a factor to be. Why, Dr. Miller, don't you know that every invention, either great or small, was at one time a wild dream, or a mere figment of the imagination?

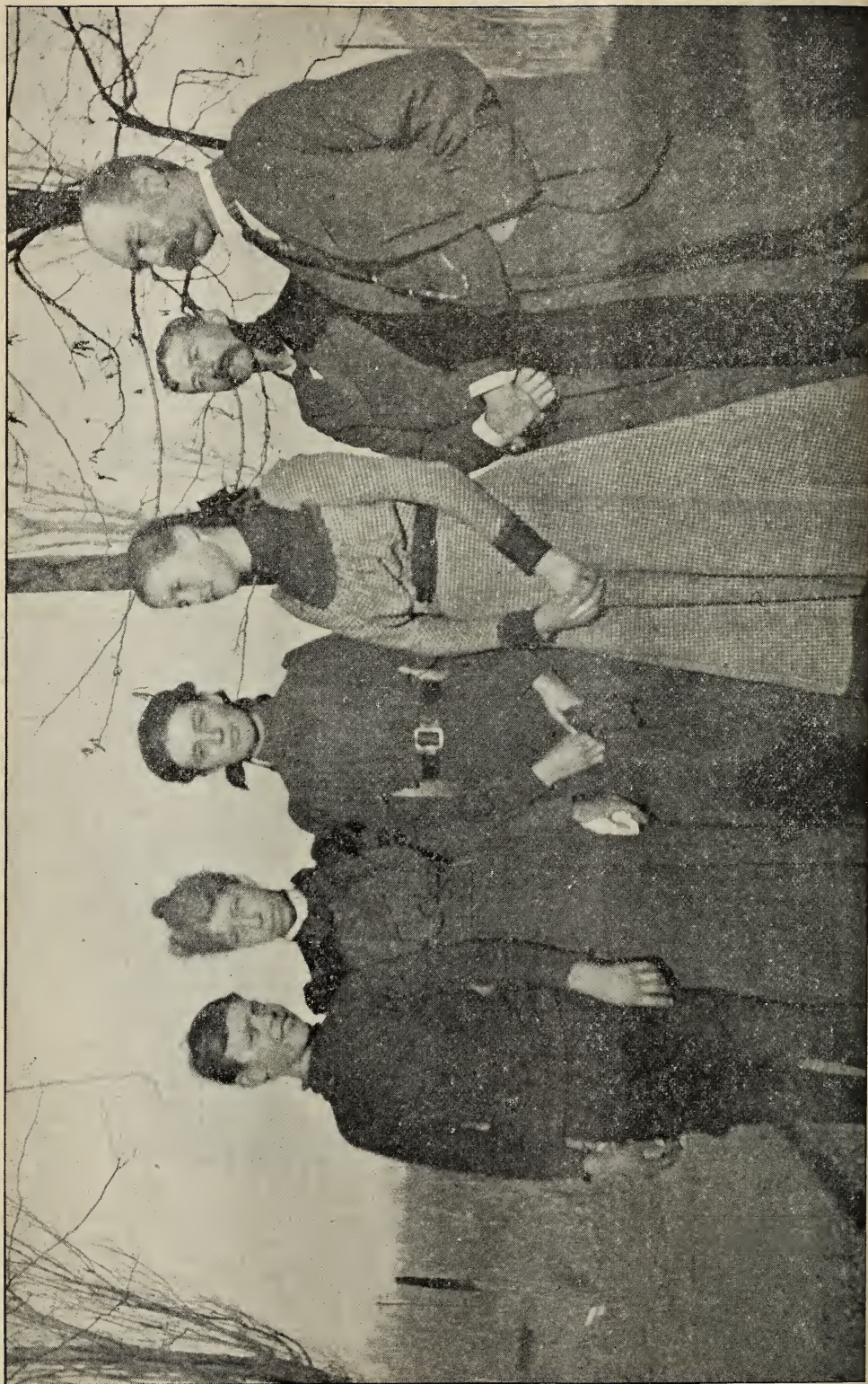
#### BEE-KEEPING AND BELGIAN-HARE GROWING COMBINED.

You will remember that Mr. McNay and the Rambler went on a Crow-hunt last winter. Well, that Mr. Crow has gone daft upon the rearing of Belgian hares. There is not a bee in his bonnet now. It is pedigrees, and all about does and other things. Los Angeles is the head center of the hare business for the United States. Within the past year it has grown to mammoth proportions. I don't know that there have been fortunes made from the business; but one thing is certain, there is a chance for the bee-keeper who goes into it to have something to live upon; for, if hard pressed, he can live upon his hares. They are very good eating. To-day there is a large exhibit of Belgian hares in the city—some three hundred entries—and there is much enthusiasm. Several bee-keepers have transferred their love from the busy bee to the quiet and peaceful hare, and they think they have struck something better than the uncertainties of bee-keeping. I am thinking that the Belgian-hare business could work well with bee-keeping, and there will be no use of giving up one to go into the other; but run both, and make a good thing out of each of them. It is possible the Rambler may make a run after the hares. If he does I shall expect Murray to be after him too. We shall see what we shall see later.

#### THE HOREHOUND PLANT IN CALIFORNIA.

Horehound is quite abundant upon this coast, and is classed as a valuable honey-plant. The honey is quite dark, and flavor strong. In some instances it gives a strong flavor and a taint to the lighter grades of honey, and on this account some of our bee-keepers are inclined to banish it. Horehound honey is, however, not so disagreeably strong as eucalyptus honey. Many prefer a honey with a tang to it. About the right amount is found in horehound; and I am sure that, if we could get a good amount of straight horehound honey, it could be sold for its medicinal properties. It will, perhaps, be remembered by some of the older bee-keepers that Mr. Hoge (so called) of New York, some years ago, claimed to own several California apiaries where the bees gathered nothing but horehound, and under the name of horehound honey it was sold for its medicinal qualities. Mr. Hoge's California apiaries were wholly fictitious, and the honey ditto as far as horehound was concerned. It was something like the "pure Vermont maple syrup" on sale in California—neither honey





W. L. PORTER AND FAMILY. SEE EDITORIALS.



nor syrup ever saw the State from which it purported to come.

Horehound has been disseminated throughout this State by the sheepmen, or, rather, their sheep. The seed-burrs will cling for a long time to the wool, and the seed disseminated over a large area. With the lessening of sheep-herding there will be a decadence in the area of the plant, and it will be a poorer source of honey. During the dry seasons horehound has been the means of helping out the season and keeping the bees alive, and in that respect it is no mean honey-plant.



### HOUSE AND FIELD BEES.

The Age at which Young Bees Take to the Fields.

BY L. STACHELHAUSEN.

Dr. Miller mentions in *Stray Straws*, page 6, that my figures given on page 925 of last year's *GLEANINGS* are not exactly the same as generally accepted by bee keepers of this country, and asks: "Has he good ground for this?" The matter has not much bearing on the subject of that article, and I kept these numbers in my memory from the time I was a beginner in bee-keeping. At that time, about 35 or 40 years ago, Prof. Menzel had given the figures, and said that we could figure out how many eggs, unsealed larvæ, capped brood, house bees or field bees were in a hive, if we know the number of one of them. He found the bee commencing to gather pollen when 18 days old, but we shall see what others say.

Berlepsch found in three experiments the first gathering bees on the 16th day; a few years later he observed them on the 19th day. Doenhoff found the 19th day. Others observed, probably under other circumstances, the 12th and 14th day. A. I. Root said they will bring in pollen when about two weeks old, but if necessary can go out for it when but five or six days old. This does not agree with Berlepsch, who said that the young bees will have a play-flight not before the seventh day. Another experiment seems to indicate that the bee must be older than 11 days under the most favorable circumstances before it can gather any thing.

The fact probably is, all depends on the condition of the colony. If comparatively much brood is in the hive during the progressing development of the colony, the young bee will become a field bee later; contrary, if the brood is diminishing and no combs to be built. While a good honey-flow invites to work, it will commence this kind of work earlier in its life.

The answer to the question, how old a worker will get to be on an average in the height of the season, is necessarily guesswork. Menzel says, as accepted by me, 34 days; proba-

bly he guessed at 16 days field work because he supposed 16 days house work; but I do not know this. Prof. Cook says 30 to 45 days. Berlepsch thinks that, in the height of the season, the oldest bees of a colony may be three months old, and an average of six weeks may be right.

We do not even agree on the question as to what age the larva will be capped. In Langstroth we find 6 days; Menzel, 5; Cowan, 5; Vogel, 5. Root says between the 6th and the 7th day. Greiner, who made the latest observations I know of, found between the 5th and 6th day, and thinks  $5\frac{1}{2}$  about right.

We see the observations are so very different, probably according to circumstances, that I did not find it necessary to change what I had in my memory, and Dr. Miller will be just as right to stick to his tradition.

### THE HIVE QUESTION.

In an editorial of the *American Bee Journal*, the same article of mine is mentioned, and said I was led to the conclusion "that for extracted honey a large hive is best, and for comb honey a small one." Certainly I did not mean to say this.

For the welfare of the bees and their proper development it makes no difference whether the bee-keeper extracts the surplus honey, or takes it off in the form of filled sections. If a small hive is ill fitted in this respect for extracted honey, it can not become better for comb honey. By the present management we can not use the advantages of large hives in producing comb honey, so we can form only one conclusion, and that is, *the present management is incorrect.*

The problem is to find out a management by which all advantages of large hives can be utilized, and at the beginning of the honey-flow to get the colony in such a condition that the work in the supers is started at once, and all the honey stored there—that is, to get the brood-chamber in the best possible condition.

Converse, Tex.

### THE HONEY-EXTRACTOR.

Some Historical Facts in Regard to its Early Introduction in the United States.

BY M. M. BALDRIDGE.

J. L. Peabody, of Denver, Col., who formerly resided at or near Virden, Ill., "brought out his extractor in 1870, it having been patented in 1869. I believe this was the first American honey-extractor, and perhaps the first in the world, that was ever put upon the market." I find the foregoing statement on page 57, and evidently written by E. R. Root.

I am pleased to learn through friend Root that my old friend Peabody is still alive, and, I trust, is also in good health. I was personally acquainted with Mr. P. prior to 1870, and while he was residing in Illinois. I have often seen the Peabody honey-extractor, but I did not suppose it was "the first machine that was ever put upon the market in the United States," nor did I suppose friend Peabody ever so claimed it to be.

In any event I think I have plenty of proof to show to the contrary. I have some old letters from which I will quote a few lines. They were written by Mr. A. E. Trabue, a practical bee-keeper residing near Hannibal, Mo.; but whether Mr. T. is still alive or not I do not know. April 29, 1868, Mr. T. wrote me thus: "You speak of honey-emptying machines, Langstroth speaks of further improvements in his last circular, '*not patented nor patentable*,' and for two frames only, I think. Do you make that machine, and at his price? If so, send me one by express. I have one of my own make that I used last year, but it is too large."

Again, May 4, 1868, Mr. Trabue writes me thus:

"Enclosed is check on Horner, New York, for \$15. Send me one honey-emptier with latest improvement and knife."

Soon thereafter I sent the desired machine to Mr. Trabue as per his instruction. That honey-extractor was one that I bought of father Langstroth in the spring of 1868, and possibly it was the first machine that was made for sale in the United States. It was sent to me from New York, but from what point I do not just now recall. The machine was made at some factory there, and for father Langstroth. The machines were made only as ordered—at least father L. so states in his printed circular dated February 20, 1868, and which is also in my possession.

The revolving box in the Langstroth extractor was made for two combs, and the outer case was simply a well-made barrel. It had no gearing, but simply a horizontal crank on top of the upright wooden shaft, and was operated somewhat similarly to the Peabody machine as shown on page 57.

I did not like the way the revolving box was operated, and thought I could improve the machine by substituting a gearing for the crank. I also thought it would be better for me to make the outer case nearly square and of whitewood lumber. I began at once to make a number of extractors as outlined above. One of these machines I sold in 1868 to Jas. M. Marvin, of this city, who, at that date, was one of the oldest and most extensive bee-keepers in Illinois. Mr. M. died a few years ago. He used this extractor from 1868 up to the year of his death, and extracted an immense amount of honey with it. Mr. M. often stated that he had never seen a better and more substantial honey-extractor, and that he would not exchange it for any other on the market. And this same machine is still in good repair, and is now owned in this city by a nephew of Jas. M. Marvin, deceased.

In 1868 I advertised by circular and otherwise my own make of honey-extractors for sale, and nearly all I sold that year were geared machines.

Reliable history is what the bee-keepers want, if any, and this is my only apology for the foregoing.

St. Charles, Ill., Feb. 22, 1900.

[When I spoke of the Peabody as being the first put on the market I meant the first one

that was advertised and sold to any extent. The Peabody and other extractors that I named were advertised and sold very extensively in the early 60's. I do not find either yours or Langstroth's extractor advertised in the old back volumes of the *American Bee Journal* from '58 up to '62. I do find where Langstroth described his early machine in '58, and that he thought there was a great future for the "honey-emptying machine." However, all the data that you have furnished are interesting, as you are one of the very few surviving pioneers of the early days of bee-keeping as a business in this country.—ED.]

## WINTERING IN A CAVE.

### A Low Consumption of Stores; Some Interesting Data.

BY JOHN R. MILLARD.

I thought perhaps you would like to get reports on the amount of honey that bees consume where they are wintered in a cave, so I send you in this letter my report with them for the winter of 1889. I used one of your

No.	Nov. 4, '89.	April 4, '90.	Lost, in lbs.
	Wt., lbs.	Wt., lbs.	
No. 1.....	52½	42¾	9½
" 2.....	52½	41¾	11½
" 3.....	43¾	37	6¾
" 4.....	59	46¾	12½
" 5.....	58½	48	10½
" 6.....	60½	50½	10½
" 7.....	58½	47½	11
" 8.....	62½	50¾	11½
" 9.....	62½	51¾	10¾
" 10.....	55	46	9
" 11.....	56½	46	10½
" 12.....	58¾	43¾	15½
" 13.....	58½	51	7½
" 14.....	56½	43¾	12¾
" 15.....	56	43¾	11½
" 16.....	53½	42½	10¾
" 17.....	63¾	53	10¾
" 18.....	64	54½	9½
" 19.....	60¾	52¾	8
" 20.....	65½	53¾	11¾
" 21.....	55	44¾	10½
" 22.....	54½	43½	11
" 23.....	58	44¾	13¾
" 24.....	56	49¾	6¾
" 25.....	58½	48	10½
" 26.....	57½	50½	6¾
" 27.....	54½	41¾	13
" 28.....	58	49	9
" 29.....	63½	54½	8¾
" 30.....	58½	49½	9
" 31.....	58½	47	11½
" 32.....	63¾	56¾	7½
" 33.....	56	47	9
" 34.....	59	50	9
" 35.....	57½	47½	10¾

#### WEIGHT OF HIVES CONTAINING BEES.

Average weight Nov. 4, 1889, 57¾ lbs.

Average weight April 4, 1890, 47¾ lbs.

Average loss in weight to each hive, 10½ lbs.

new double-beam scales, and weighed them Nov. 4, 1889, then again Apr. 4, 1890. I had 35 colonies that fall, and never lost any in wintering. I think they went through the spring all right. I am sorry now that I destroyed the record of when I put them in the cave and when I set them out; but I think I put them in as soon as I would weigh them. Yes, I know now, as I would weigh a hive, carry it



into the cave, and suppose, as soon as I set them out in the spring, I weighed them; for I would always set them out when soft maple commenced to bloom, and that is from the middle of March to the 10th or 15th of April. They were all in 8-frame hives. I suppose there is not another as good a cave in the State as the one I wintered them in. It was 33 ft. long in the clear from back end to end under the stairs; over 6 ft. wide and over 6 ft. high, all walled with brick, and arched over, then all cemented, and a thick cement floor. It had two doors, one at outside and one at foot of stairs. It had two ventilators and a drain. The dirt on the roof was not ridged up, but was level with the surrounding ground, and yet there was over three feet of dirt over the shallowest part of the cave roof. The floor was 10 ft. below the surface, and big changes in temperature outside had no effect inside—a perfect place for bees to sleep all winter.

Flagler, Iowa, Dec. 11.

[These experiments in cellar-wintering agree very closely with a similar table showing recorded observations as made by Dr. Mason. There is no question but that indoor bees, *under favorable conditions*, consume less stores by a third than those wintered outdoors. But not every one has either the means or the skill to bring about these conditions.—ED.]

#### WHAT ARE THE BEST QUEENS WORTH?

Three and Four Hundred Dollar Queens; the Revenue a good Queen May Bring in from Honey Sold.

BY W. A. H. GILSTRAP.

The recent talk about \$100 queens has been a genuine surprise to me on account of writers in GLEANINGS and elsewhere considering the price so very high. Why so? The A. I. Root Co. wanted the best queen in the United States, or at least one of the very best. They have some good bees with which to compare her. She must produce workers which are good comb-builders, gentle, hardy, pure stock, decidedly ahead of their associates in storing honey. The queen is supposed to transmit her desirable qualities to her royal daughters. That is one of the main advantages, if not the principal one, that pure stock offers. Now, what can a honey-producer afford to sell such a queen for that is one or two years old? Perhaps she is two years old before her owner has all the desirable qualities fully established.

Of course, frame and hive manipulation can be made much easier with such bees. Aside from the real pleasure and comfort derived from handling such stock, there is a direct saving of time, which is worth enough to go a long way toward requeening. If you have ordinary Italians, this point alone would not pay for requeening; but with cross bees it would.

But the main advantage to be gained is in filling cans and sections so much faster. According to page 829, Nov. 15, Mr. Wright has a queen whose colony leads all others in his

possession by over 90 lbs. in 1899 and 1898. Leading poultry authorities say that, in scoring a breeding-pen of chickens, half the points should go to the cock. But the apiarist can pit, not one male against six or eight females, but he can divide desirable qualities between one female and a practically unlimited number of males. I see no reason why Mr. Wright could not raise his average per colony over 40 lbs. in sections, by requeening from Mrs. Sweetheart. Let the reader decide how much that would be worth in his locality for 100 colonies. What value would that amount pay interest on at three per cent? Doesn't that make \$200 look small?

Some may object to the above on the ground that such a queen is a freak, and will not transmit her desirable qualities to the extent indicated. Let's see. Perhaps Messenger was the greatest desirable freak among horses. His desirable qualities have been intensified by judicious breeding until all the world wonders at the result.

The writer's experience along the same line might be of some interest. For years I have been trying different strains of Italians, with various degrees of success. My best workers were never vindictive except in one case, and they were evidently badly mixed with Cyprians. The leather-colored bees proving more desirable than any I had found, convinced me that a colony I had occasion to examine frequently last winter was about what I wanted. These bees were in an old leaky hive, were quite strong, a trifle lighter than some Italians I have imported, very uniformly marked, and very gentle. I bought the queen, and was told that, of about 100 colonies in that lot in 1898, all were moved to another range because they were "starving out" except the one in question. They were not moved, as it was not considered safe to move so much fresh honey on unwired combs in hot weather. Being so strong caused fear of swarming, and the apiarist divided the colony.

After I bought the queen I put her in a more desirable hive. In due time the cells were all removed but one, which produced a fine queen, and evidently mated with a drone from the same colony. She is little if any inferior to her mother. I do not remember being stung by bees from that hive except when they were pinched in handling frames; but frequently they would have stung if a little smoke had not been used. Her daughters were mostly mated to Italians or high-grade mongrels, but they had colonies inferior to their parent stock. I think my average yield from these colonies was between one and two dollars better than from others in the same kind of hives, at least.

The point that interests me now is to determine how much in-and-in breeding can be done without detriment to vitality of the stock. Those who are determined to raise very yellow bees without much reference to any thing else need not worry about vitality. So far as my experience goes, there is little danger in that line. Can some of the veterans give more light?

Some months ago I was on the point of

challenging the United States on the point of stock; but now I crawl back into my shell, and decide to invest more in promising strains of bees than ever before. When compared to stock, the hive question is a small one. Let every honey-producer say, "I want the best, and am willing to pay for it." Let those who are confident they have the best (I am not) quit talking about selling their best queen for \$100 or \$200, for it is a losing deal to a practical bee-keeper. Compared with their wealth-producing power, such queens as we see descriptions of lately should not sell for \$200. Had I a queen equal to one or two described of late, twice that would not get her.

Grayson, Cal., Dec. 22.



AMONG THE BEES IN SPRING; SPREADING  
BROOD FOR HONEY AND INCREASE;  
UNITING TO KEEP DOWN IN-  
CREASE AND TO RUN  
FOR HONEY.

Burt D. Buckley, Salamanca, N. Y., called on me by letter a few days ago, wishing me to tell him and the readers of GLEANINGS just how I managed the bees in spring so as to secure good results in comb honey. While reading his letter I was reminded of a conversation I had with a gentleman who came to see me on this very subject a few years ago; and as I remember our talk quite well, and seeing no reason for talking differently at this time than I did then I will imagine it is Mr. Buckley talking with me, instead of the gentleman of former years, and in this way give Mr. B. just what I would say to him were he right here in my presence.

"Mr. Doolittle, I called to see you this morning about how to manage bees in the spring so as to secure the best results from both the strong ones and the weak. How early should I commence operations?"

"From 30 years' experience I am persuaded that there is nothing gained by commencing too early, as from six to eight weeks is sufficient time to build up a fair colony in the spring to one sufficiently strong to store honey to the best advantage."

"But what am I to understand by 'too early'?"

"As white clover is the first plant to yield nectar in sufficient quantities to pay to work for honey for surplus, here in York State, the time of its general blooming is to be our guide. In other sections of the country, doubtless other plants or trees may be a guide to go by; but all should know just what gives the first yield, sufficient to pay in surplus for a special working for that yield."

"About what time does white clover begin to yield nectar?"

"As clover usually begins to yield nectar in this locality about June 15 to 20, the first of

May is soon enough to commence managing the bees for increasing their brood more rapidly than they naturally would."

"Do you think it pays to go into the brood-chamber and overhaul the frames, etc? Some are opposed to such a thing, believing more harm than good results therefrom."

"I know some think it does not pay to change the brood-combs by way of reversing them, putting combs of honey in the center of the brood-nest, etc.; but after years of experimenting I am satisfied that it pays *me*, whether it does others or not."

"Well, how do you manage?"

"Before telling how I manage I want to tell you of one experiment tried to see if it paid to try to build the bees up in spring faster than they would naturally do it themselves, for on this matter of pay rests nearly all there is of bee-keeping, to the average apiarist."

"I shall be glad to hear it."

"One spring, several years ago, I set apart ten colonies, all of which had plenty of honey, and were as near alike as possible, to obtain ten colonies of bees at that time of year. After seeing that all were in proper condition, five were left to themselves, and the other five worked according to the plan which I will soon tell you about. The five let alone were two weeks behind the others in swarming, and upon footing up the results in the fall I found that they gave only two-thirds as much honey as the other five which were managed as I usually manage bees. From this and many other experiments of a similar nature which I have tried I conclude that it pays, and so attest my faith by adhering to that which gives me the greater profit."

"That does appear right, and makes me anxious to hear more in the matter. How do you proceed?"

"About the first of May I go over the whole yard and examine each hive to see how much brood there is; and all colonies which do not have an equivalent to  $2\frac{1}{2}$  frames full are shut upon the frames of brood they do have by means of a division-board, or dummy, as it is sometimes called; while those which have that amount, or more, are allowed the whole hive. To keep the smaller ones in the best possible condition, and guard against starving, a frame of honey is left beyond the dummy, under which the bees can go and carry in this honey as needed."

"Is that all you do with the strong colonies?"

"At this time the strong colonies have their brood-nest reversed by putting those frames having the least brood in them in the center of the cluster, and those having the most at the outside."

"What's that for?"

"This causes the queen to fill these center combs with eggs as fully, or more so, as were those which were in the center before; while the brood in those now outside is not allowed to decrease at all. Thus quite a gain is made with very little danger of chilling any brood, no matter how the weather may shape in a day or two."

"What is the next move?"



"About a week later I take a frame having considerable sealed honey in it, and break the sealing to the cells by passing a knife flatwise over it. After spreading the frames apart this frame is placed in the center of the brood-nest. The removal of the honey from this frame causes the bees to generate a greater amount of heat, and feed the queen more abundantly, thus stimulating brood-rearing as much as or more than by any method of feeding."

"Where do you get such frames of honey?"

"There are generally plenty of such frames of honey in the hives, near the outside."

"But suppose there were not."

"If I did not have the frames of honey I would fill empty combs with sugar syrup and use the same as frames of honey; but I consider the frames of honey preferable. As the honey is removed, the queen fills the cells with eggs, and at the end of another week another frame is added in the same way."

"What further?"

"The next time over the brood is reversed, as at first; while at the end of the fourth week, two frames, instead of one, containing honey, are placed in the center of the brood-nest, leaving one or two frames of brood between them."

"The hive must be about full of brood by this time?"

"Yes, if you are using an eight-frame hive; but it would lack two, if a ten-frame hive. If the ten, a week later, we put the remaining two in the center, if the queen is prolific enough to keep that many filled with brood. It is now about June 6th to 10th; and as soon as the bees gather more honey than enough to feed the brood, the sections are put on."

"But what about those shut on their frames of brood by using a dummy?"

"Those are left as they are till the frames we gave them are well filled with brood clean out to the corners, when they are given a frame of honey in the center, and then manipulated as were the others, till they are in the same condition."

"Is there no way of booming these ahead faster by giving them brood from the stronger colonies?"

"Yes. If I wish as many colonies as possible, I begin to take brood from those having their hives full first, and give to the stronger of the weak colonies, and later to the next stronger, till all are built up to strong colonies."

"Why do you not give frames of brood to the weakest ones first? That is the way I should do."

"This is the way I formerly did; but after losing several frames of brood, and materially weakening the colonies to which it was given, I learned that, to give a frame of brood to a very weak colony of bees, before settled warm weather, was almost sure to result in loss."

"You said, a minute or two ago, something about wishing as many colonies as possible when you worked as given. Supposing you did not wish many colonies, what then?"

"If I wish honey instead of increase, I work all of the weaker colonies till they have four or five frames of brood, according to the num-

ber of frames my hives hold, when three or four frames of brood, bees and all, are carried to another, and united with it, while the frame having the queen upon it is placed back in the hive again."

"But won't the bees quarrel when thus united?"

"The frames in the hive we wish to unite the four frames of bees and brood with are spread apart, and the four frames placed in each alternate space, as bees thus mixed seldom quarrel or harm a queen at this time of year."

"What is further done with this united colony?"

"In two weeks this united colony will be as strong as any in the yard; and as soon as strong, and honey coming in, the sections are put on, as was spoken of before."

"What about the hive having the frame with the queen on it?"

"This little colony can have a frame or two added to it and used as a nucleus for procuring surplus queens from, or any other purpose desired by the apiarist. They can be very profitably used for comb-building, for they are almost sure to build nice straight worker combs."

In the above I think Mr. Buckley will find answers to all he wished to know. It not, he knows the way to this place again.



HONEY FROM HICKORY, OF GOOD QUALITY;  
IS IT A SECRETION FROM THE LEAVES  
OR FROM INSECTS?

*Friend Root*.—As I have had a little experience with hickory honey-dew I take the liberty of answering the query of E. D. Howell, page 88. In the summer of 1889, just about the time basswood was closing, the hickory-trees, especially the second growth, began to produce a flow of honey which lasted ten days or two weeks. Every leaf seemed dripping with it, and it did actually drip off till the dry leaves and grass were coated with it. The bees would work from daybreak until about 9 or 10 o'clock with as much vim as when on basswood. At this time it would begin to dry and would get so thick that bees could not gather it. I have seen them stick fast to the leaves when they would alight. About 3 in the afternoon it would begin to soften up and flow again, when the bees would have another rush till dark. They would drop in front of the hives till the ground would be literally covered with them going in on foot. The whole top surface of the leaves would be a solid mass of honey, and the only thing visible in the shape of "aphides" was that, occasionally, on the under side of a leaf I could see a small pale-green insect. Whether they had any agency in the flow or not I could not say; but I don't believe they did, for I have seen them several times since, and no honey. I

candidly believe it was a "natural" production of hickory-trees, as it was on nothing else, caused by atmospheric action. The flow suddenly ceased after a heavy shower. I had several hundred pounds of it in 1-lb. sections, and a ton or more of extracted, and it was the "finest" honey I ever saw—whiter, if possible, and heavier-bodied, than any basswood—a very sweet, rich flavor. Any one who has ever scraped the waxy exudation from the top of a newly cut hickory stump in the spring of the year, and tasted it, can tell what the peculiar flavor was; but it was far milder. Another peculiar feature was that my wife (now dead) used it for all kinds of cakes, sweetening sauce, and preserving all kinds of fruit, and there was no more "honey" flavor than from the best granulated sugar, even while hot; and how I have longed and watched every season since for another flow of hickory-honey-dew! Should I ever be favored with another I will remember you with a sample of it.

ELIAS FOX.

Hillsboro, Wis.

[I have always had the impression that the product from the hickory-tree was almost black, and decidedly poor in flavor; but probably this was a mistake.

But I should be very much disinclined to believe that the saccharine matter, whatever it is, was the secretion of the leaves of the tree. Not all the so-called honey-dew from aphides is of poor quality by considerable. Some of them are very palatable, Prof. Cook says, and the product from the aphides of the hickory may probably be classed among them. The very fact that you saw aphides at all, indicates pretty strongly that they were responsible for the sweet varnish on the leaves. While it may be true that you have seen the aphides without the honey-dew, that fact would prove nothing. There may be conditions under which aphides will give off this exudation, and others when they will not. I should be glad to hear from others who have evidence to offer.—ED.]

#### HOW TO SECURE THE GREATEST INCREASE WITH THE LEAST EXPENSE OF SURPLUS.

I have fifty colonies of bees which thus far have wintered well. As a result of a poor season I have left over 40 ten-frame two-story hives with sufficient foundation to give all frames full sheets. I have also 350 empty combs. Thirteen of the colonies are in eight-frame hives fitted with two supers, each for comb honey. What I wish to know is, by what plan to manage them to secure the most increase at the least possible expense of surplus. I am aware that locality has a great deal to do with the plan, so I will explain.

The bees can gather pollen from natural sources as soon as it is warm enough for them to work, which is about the middle of April, or perhaps ten days earlier some seasons. They usually build up rapidly, and the strongest will swarm the last of May; but the most swarm in June. The honey-flow is gradual, increasing to August, which is the great honey month, and continues right up to the first

frosts, which come from the 1st to the 7th of September, and ceases altogether in twelve to fifteen days later.

B. F. JONES.

Idaho Falls, Ida., Jan. 27.

[Much will depend on whether you propose to run for comb or extracted honey, and also whether you would furnish laying queens to each nucleus or division of a colony.

If working for comb I would see that all sections were supplied with full sheets of foundation. Then I would take care of all swarms on the clipped-queen plan; that is to say, I would hive the first swarm in an empty hive on frames of foundation—the hive to be placed on the stand occupied by the old one. The super I would then place on top, and, as soon as a swarm returned, release the clipped queen, and let the bees, queens and all, run into the new hive on the old location. The bees would then carry on the work in the super just where they left off. The old hive, or parent colony, with its brood and queen-cells, and the remaining bees, are to be put in an entirely new location. I would remove the cells, if good ones, and give it a laying queen; and as it becomes strong enough so as to swarm I would treat it as above. The cells secured, if from a good queen, should be given to nuclei.

But in most localities the parent colony would not swarm again that year; and the only thing that could be done then would be to stimulate by feeding a little every day. When it becomes strong enough, divide it into one or two nuclei, giving (to each) one or more frames with full sheets of foundation. Feed each nucleus, and supply it with a laying queen. If you could not afford to buy queens, set apart several colonies for the raising of queens; and as soon as the queens have begun laying, keep them in small nucleus-boxes containing one or two sections and a hundred or so bees. The entrances to these little nuclei should consist of one or two holes of perforated zinc, and four, six, or eight boxes should be placed on the top of a strong colony, with wire cloth beneath, so that the warmth of the powerful colony below will supply the necessary heat for the bees in the little boxes. As fast as queens are wanted for increase I would take one or more from these little nucleus-boxes, which will then be supplied with more laying queens, as soon as they are ready, from queen-rearing nuclei. The purpose of the little section-box nuclei is to hold the surplus of laying queens until they are wanted.

But in your locality I should judge that you would not need to carry on any stimulative feeding; and I see no reason why you could not increase 12 colonies up to 100, and secure, perhaps, from 1000 to 3000 pounds of honey. But the larger the increase, the smaller will be the amount of honey, and *vice versa*.

If I were running for extracted honey I would take away combs and brood as fast as a good strong colony could spare them, and put them into empty hives as nuclei. Give to each nucleus, with its combs and bees, one or more frames filled with full sheets of foundation. Keep on forming nuclei thus; and then, if you



have them, supply them with laying queens, or virgins that will begin to lay in a short time. But it is best to leave virgins in the hive until they are fertilized, because it is hard to introduce them.—Ed.]

#### BEEES ON SHARES.

Where one has bees on shares, is it customary to divide the increase at swarming time, and make up the losses to the owner of bees, as they occur during the season? I don't know just what is customary.

Fresno, Cal., Jan. 10.

A. A. CONEY.

[When bees are kept on shares it is the rule for both parties to share equally in the profits, and in the expenses and losses. The time of the one who contributes the labor is supposed to offset the capital of the other in the form of bees, hives, implements, etc. Carrying this principle out, each party pays for half of the new hives, sections, shipping-cases, honey barrels, honey-cans, etc.; and each party receives half the proceeds of honey and bees sold. At the end of the season the increase is divided equally between them. For instance, if there is an increase of fifty colonies from swarming, each would have 25 colonies, including hives and a half-interest in the supplies left over. If at the beginning of the season the owner has 25,000 sections, the one who is supposed to work the bees is expected to pay half their cost, including freight.

But if half the bees die during winter, notwithstanding the fact that the operator puts them up the best he knows how, carrying out the same rule, he should make good half the loss of the bees. And right here is where many troubles arise. The operator is apt to complain, and with a fair show of justice, that he ought not to be expected to pay for bees that were lost during winter that were not his legally. But here comes the owner, and says that, if his partner had taken care of the bees, no such loss would have occurred, and then there is a row. So it is well to have this particular point safely covered.

A large portion of the bees in Colorado are kept on shares. It very often happens that one may own 200 or 300 colonies, and work them as his own property, and, of course, in this case, receiving all the profits or suffering all the losses. In all probability he can not only take care of his own bees, but also of 200 or more colonies belonging to a neighbor who has some other business. An agreement is made, whereby the owner of the 300 takes care of the 200 colonies not his own. This seems to be done to a considerable extent in Colorado. But, say; knowing what I do about bees being kept on shares I think I should prefer to buy my neighbor's colonies if I could, and then pay for them out of the proceeds that I might derive from those very same bees. But here is the rub: Bees pay in Colorado, and probably the other fellow would not sell; and then the only thing that can be done is to run the bees on shares. I am not sure that sharing equally in losses as well as gains is an equitable arrangement.

I should be glad to hear from any one of a

legal turn of mind who has had experience in a matter that has occasioned no little controversy and bad feeling. If there is an equitable plan whereby all disputes may be avoided, let us by all means have it. Furnish us with a form of contract that will be iron-clad, and afford full protection equally to both parties. Let it be stated in legal phraseology, and be so clear and fair that no trouble *can* arise.—Ed.]

#### SWARMING.

1. Do bees always swarm in a good season if strong enough to do so, even if late in getting about it—old swarms I mean?

2. If an old colony swarms out several times, and goes back, is it a sure sign that they will swarm some time that summer? I had some act that way, but divided them after they had swarmed out twice.

3. Do after-swarms ever swarm the first summer?

4. If an old swarm sends out a prime swarm early in the summer, and no after-swarms, and has most of its winter stores still left in the hive after sending out the swarm, will it send off another prime swarm later on in the summer? or do old swarms ever send out more than one prime swarm in a summer?

ANITA A. BYERS.

Entiat, Wash., Dec. 12.

[1. It depends on how good the season is, and somewhat on the bees and the size of hive. Ordinarily, with a good honey-flow, an eight-frame colony is pretty sure to cast at least one swarm.

2. Do not let them do it. If they swarm out more than once, and continue to swarm out, and go back, the probabilities are that the queen is not able to fly. During the interim from one swarming-out to another, the bees will be pretty apt to fool away their time, gathering little or no honey, and sulking, probably because they can not have their own way. After they have attempted to swarm out three or four times they will be liable to kill their queen; and when the virgin is able to fly, they will swarm out and stay out.

There is no sure sign about swarming. If a colony attempts to swarm out once, and if, a few days afterward, tries the act again, I would divide it, or else see what is the matter with the queen; or perhaps, better still, take away all frames of brood, and give it frames of foundation, leaving them their super, if they have one, in which they are storing honey.

3. Yes, sometimes; but, of course, this is not the rule. The parent colony is liable to give off after-swarms at the going-out of each virgin queen on her wedding-tour.

4. This is a question that I can not answer. If the honey-flow continues, it might send out a second swarm, probably weaker than the first. If the honey-flow stops, then you may set it down as a rule that all swarming will stop, although there are exceptions to even this rule. Sometimes the bees get such a craze for swarming that, even after the honey-flow is stopped, they have so far lost their heads that they are bound to carry out their

desires, honey or no honey. Bees will do foolish things as well as human beings.—ED.]

the sense that it may bring about a favoring condition.—ED.]

#### JAPANESE BUCKWHEAT; REPORT IN PROSE AND POETRY.

You know I bought some Japanese seed of you last year. I sowed a part of it in the spring, and the rest in July. Both crops did remarkably well, but I think the late crop made the best growth and yield, for I never saw such a crop of buckwheat grow. It was over 4 feet high, and the largest straw I ever saw. It filled remarkably well, for it could not have had any more grain on it, and it went flat to the ground after it was ripe with the weight of grain it bore. Well, where do you suppose I got my profits? I will tell you.

The bees got the honey,  
The chickens got the wheat,  
And I got the straw,  
And lots of eggs to eat.

I believe it would have yielded 50 bushels to the acre if it had stood up and been harvested; but I had only a fraction of an acre.

Summertown, Tenn. F. A. FINCH.

#### SMOKER FUEL; HOW TO AVOID SMOKER DRIPPINGS.

I want to say just a word in regard to the drippings from the smoker. I believe the manufacturers and most of the dealers have told us to use dry sound hard wood. I have always used dry punk wood, sawed up about half an inch square, and three or four inches long. I get a log every year, usually poplar or maple; take it when it is white, and soft enough to break, and keep it where it is dry. It can be easily lighted with a match, never goes out, and I usually get through the season with about a barrelful of the punk, and I have never had a drop from my smoker in all the years I have used it. I have sometimes used sound wood when I got all out of punk, and had noticed the drippings. I am well aware that all bee-keepers can not get this most excellent fuel readily; but all who can should try a little; and I venture to say they will never use sound wood if they can get the punk. Another advantage, it makes a much better smoke, and more of it, and the smoker does not get nearly as hot.

JAMES WOOD.  
North Danz, Mass., Jan. 12.

#### NECTAR OF VEGETABLE ORIGIN.

Is nectar a vegetable or an atmospheric production or both? 1. If vegetable, why do we often find the bees starving when the fields are white with clover bloom? 2. If atmospheric, why would it not form on the house or fence as readily as in the flowers? 3. If both, what are the essential conditions of the two to cause secretion in the flowers?

W. B. RANSON.

New River, Va., Feb. 12.

[Nectar is of vegetable origin. It could no more come from the air than could corn that depends equally on the atmosphere for its growth. But atmosphere does have something to do with the secretion of nectar, but only in

#### THE PEAR-TREE PLANT-LICE.

In reply to Mr. Greiner's questions, Dec. 1, p. 881, I will say that the insect is undoubtedly the pear-tree *Psylla* (*Psylla pyricola*). The psyllids are sometimes called jumping plant-lice because of their habit of jumping when disturbed, and at the same time taking wing; the specimen from which Mr. Greiner made his drawing was immature. In a few days it would have cast its skin, and come forth fully fledged.

This insect excretes from its body a large amount of sweet liquid which is as truly honey-dew as the secretion from a plant-louse. When these psyllids are abundant on the pear-tree they do much harm, sapping the strength of the tree. The foliage, vegetation, or other objects beneath such trees become completely covered with the honey-dew which bees, ants, wasps, and flies seek as food.

C. P. GILLETTE.

Fort Collins, Col., Feb. 5.

#### HOW TO BLEACH TRAVEL-STAINED COMB HONEY.

It may interest you to know that, since opening my honey business for the season at this location, I am again making practical use of my plan for bleaching discolored combs. There is no question as to the feasibility of the scheme, and I hope (if the time ever comes when I have an hour of respite from business cares) I shall find time to give at least a brief description of the same for the benefit of your readers.

B. WALKER.

Chicago, Jan. 7.

[Mr. Walker is a very busy man, and penned the above at the end of a business letter. This gives enough so any one who is interested can experiment for himself. In the meantime we hope our friend will have time enough to go into the methods of bleaching a little more elaborately.—ED.]

#### CEDAR FOR HIVES.

Will you please let me know whether or not cedar is offensive to bees inside of the hives? Will it drive them out of the hive?

Ft. Jones, Cal.

E. G. GERBRICH.

[So far as the slight odor of cedar is concerned, it would be just as good for bee-hives as white pine. While, of course, it is not as good timber, no fear need be entertained that it will drive bees out of a hive made of such lumber.—ED.]

#### COLORADO AS A PLACE FOR HOME-SEEKERS.

On page 90, Feb. 1, you give very good advice to J. S. W.; but I should like to add a little. Many sections of Colorado I find are better adapted for residence of consumptives than Denver and Colorado Springs—too much smoke and wind in those places. After seven years' residence in Colorado Springs I am now at Ignacio, a much more delightful climate



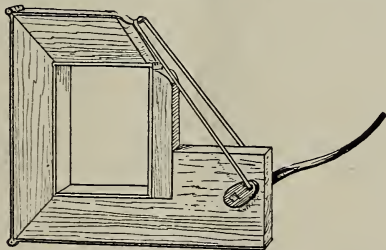
than the above—superior both summer and winter. There is now open for settlement here, for homesteads, many thousand acres of very rich land, unsurpassed for alfalfa, timothy, wheat, oats, barley, rye, apples, pears, plums, grapes, and other fruits. Water-canals for irrigation will immediately be constructed—in time for this summer's crop. As soon as this fact becomes known the land will soon be occupied. To homestead, 50 cents per acre cash is required, and one dollar per acre on final proof to procure patent. Room for bees here, but it will certainly not pay to bring bees from Iowa. S. W. MORRISON.

Ignacio, Col., Feb. 7.

[Dr. Morrison is an old correspondent of years gone by. If he is connected with any real-estate boom of any kind I am not aware of it. But in any event, no one should go in to any new field like this, taking his whole family. He should write to as many as possible, then go alone to prospect.—ED.]

#### BLACK'S SECTION-FOLDER.

I here show you two drawings of my section-folder, one open, the other one closed on section finished for use. I am satisfied it will excel any other I ever saw. The machine weighs  $2\frac{1}{2}$  lbs. I also have a machine that



will fold  $4\frac{1}{4} \times 4\frac{1}{4}$ ,  $3\frac{3}{8} \times 5$ . I think it is almost impossible, by fair means, to break a section by folding, as the machine is bound with steel hinges around each side. The dovetail is pressed together firmly by the yoke and eccentric lever, as shown in cut. After it is closed it leaves sections square, not oblong.

To operate, raise the yoke as in the first view. Lay the machine before you on the ta-



ble. Lay in the piece to be folded, as shown in No. 1. Then take the left hand and bring up the left end of the piece to be folded over the top. Catch the yoke on the hook on top; with the right hand press the lever down. It's all complete. Raise the lever to disengage the hook. The press adjusts itself for the next. I feel confident a child can operate it perfectly.

It's quick, but not cumbersome—no breaking sections. It leaves them square.

Greenville, O., Jan. 30. HENRY BLACK.

[Your folder would no doubt give good results, but it would be slow in action.—ED.]

#### DOOLITTLE QUEEN-CELLS; STICK FOR FORMING THEM.

I see in your last issue of the A B C of Bee Culture, directions for making queen-cells by the Doolittle plan. While it is very plain in most parts, yet as I have no rake to take a pattern of a tooth from, I should like to know the proper thickness of the stick that is used in forming the cells.

W. C. EVANS.

Fort Collins, Col., Jan. 2.

[In general it may be said that the cell-stick should be made to fit snugly into the bottom of a queen-cell made by the bees. The majority of the queen-cells are built off from a worker-cell after cutting it down, so that the lower end of the stick should be somewhat smaller.



The general construction should be something like that shown in the accompanying picture.—ED.]

#### TAKING OUT QUEENS TO KEEP BEES FROM SWARMING.

In Jan. 1st GLEANINGS, p. 18, Mr. N. C. Alford speaks of taking out the queens to keep the bees from swarming. What is the meaning of that? Does he mean cut out cells?

H. D. HOPKINS.

Indianapolis, Ind., Jan. 4.

[Mr. Hopkins refers to the method in use by P. H. Elwood and others, by which queens are removed or caged just at the approach of the swarming season, all cells being cut out in eight days after caging; and, as a rule, again in eight days. Colonies without queens will not swarm.

The cells are cut down in eight days to prevent the hatching of young queens, which would be almost sure to lead forth swarms at their first wedding-trip. It involves a large amount of work; but the advocates of the plan say, that, in addition to preventing swarming, it also prevents the rearing of a lot of brood and bees that will be useless consumers later on. This plan you will find described in our A B C book, under the head of "Swarming;" sub-head, "Prevention of Swarming by Caging."—ED.]

#### IDEAL SECTIONS AND THE FENCE.

I got 10 hives of you last year, with plain sections  $3\frac{3}{8} \times 5 \times 1\frac{1}{2}$ , and fence separators, some time in June. I put an extra large swarm in a 10-frame hive, and by the middle of July I took off the super of 35 sections of No. 1 honey, and there were only about 5 that were not filled to the side of the section. I sold it right away to summer resorters around Harvey's Lake for 10 cts. apiece, which brought me \$3.25. This, I thought, was good

enough, and there was not one section burr-combed fast to the fence. That size of sections and fences has come to stay.

GEO. P. ANDERSON.

Ruggles, Pa., Jan. 31.

#### WHEN TO FEED BEES IN THE SPRING.

About what time in the spring of the year would you advise feeding bees to give them a good start for spring or early brood-raising? And about what amount should be fed? Is it safe to open up hives in winter?

Bloomfield, Ind.

W. S. BOGY.

[I would not advise feeding to stimulate until settled warm weather has come, and that, of course, will vary in different localities. I would feed half a pint to a quart daily. The Doolittle feeder, or any feeder that can be set down inside of the hive, can be used. I would under no circumstances feed liquid food on cold days, and would especially caution against feeding at any time too early in the spring. For example, there may be a week of warm weather followed by very cold weather. Feeding during the first period would start brood-rearing, and do a great deal more harm than good, because the bees would during the cold spell attempt to hover over the brood, with the result that they as well as brood would die, and a large portion, if not the whole colony, perish.—ED.]

#### SHADE, AND ITS RELATION TO CLUSTERING OUT.

Two years ago I ran a yard for Mr. Ewing, of 100 stands, all in the shade of three-year-old cherry-trees and old apple-trees. My own yard of 9 stands was without a tree, but I took old scrap lumber and made shade-boards 4 ft. long, 3 ft. wide, with a wind 18 in. wide extending down the west side of the hive which faced south, laid two on the hive-cover shade-board, then with about the same space between the side of the hive and wing. Result, when bees in orchard would cluster all over the hive, mine with shade-board never clustered.

Des Moines, Iowa.

A. MASON.

#### THE TALL SECTION A BETTER SELLER.

I have used the  $4\frac{1}{4} \times 4\frac{1}{4}$  section, but did not like it. I rigged up a foot-power saw and cut out some boxes to suit myself,  $4\frac{1}{4} \times 5$ , and  $1\frac{3}{4}$  thick. I used them without separators always, and sold them by weight. They were much better filled than the smaller sections, and many were perfect, and would compare well with any I have seen illustrated in GLEANINGS. No one would buy the square box when seeing them side by side. The  $4 \times 5$  may be all right; but when you get them narrower you are going wrong again. C. E. WATTS.

Rumney, N. H., Jan. 19.

#### HONEY FROM THE TEA-PLANT.

The tea-plant is now in bloom, and furnishes quite good pasture for the bees. Tea honey is highly esteemed by the Chinese. The plant is a species of camelia, and has a large white blossom with a center of very many yellow stamens.

J. E. WALKER.

Shao-wu, Foochow, China, Nov. 22, 1899.



*H. J. B., Pa.*—The sample drone you sent is evidently the son of a fertile worker or laying worker; or he may have been from an egg laid by a drone-laying queen in a worker-cell. Such drones are not necessarily incapable of performing the function for which they were intended; but as a rule we prefer drones from a mother capable of laying eggs that will produce workers.

*A. B. D., Mich.*—I can not see any reason why your bees should be robbed without trying to defend themselves. I should be inclined to think the trouble was with your bees. If they are pure blacks they might not offer resistance; but if they are hybrids, or, better still, Italians, they ought to put up a good defense. In any case I would contract the entrance down to a space that one bee can pass through at a time. If the bees still fail to show fight, shake in a few young bees of another hive of Italians.

*C. H. L., Fla.*—We have yours inquiring if we could not make a smoker of sheet brass. I presume the reason you suggest such a metal is because your climate is so very moist with salt air, as it is called, that it rusts articles made of iron or steel. We once made for O. O. Poppleton, of your State, a smoker of copper; but one objection to this metal is that it is pretty soft, and is liable to dent up rather badly. Yes, we could make you a smoker of brass, but it would cost from 25 to 35 cents more.

*G. A. D., N. Y.*—I would not be too sure that the colony is queenless. During the winter, queens stop laying and then shrink up so much in size that they look almost like the worker bees themselves; and a beginner looking through the hive, and seeing no evidence of eggs or larvæ, and nothing that looks like a queen, is apt to conclude that the bees are queenless. Of course, if you know that the queen is dead, then the sooner you can introduce another queen to the bees the better it will be for them; but it would be a little difficult at this time of year to get a queen through the mail alive, owing to the sudden changes in the weather. We could not send you a queen from here, as we take no queens from our apiary during the winter. One would have to be sent from the South, and you would have to run your chances of getting her through alive.

*W. A. C., Ct.*—I would not advise you to buy a nucleus with a queen, and place the same among other bees, even if the other queen has been removed. In the first place, you had better not do any thing with the bees until next spring, or until you have settled warm weather. Tinkering with them now would be sure to do more harm than good. When settled warm weather comes on next spring, send to some breeder for Carniolan



queens, and introduce them, following the directions given on the cages. You might be able to look over the frames of your colonies during this winter when the bees fly; but we would not open the hives unless the temperature was at least as high as 65 degrees Fahrenheit. Bees fly on quite chilly days; but at such times it would be very unwise to open the hives.

*H. L., B. C.*—When running for comb honey it is hard to prevent swarming, although many of the inconveniences attending it can be very greatly reduced. I would by all means have the queens' wings clipped; then I would have the new swarms, if first swarms, in an empty hive on frames of foundation, or empty comb, on the old stand, and place the super on the new hive now on the old stand. The other colony I would place in an entirely new location, which transfer will have the effect of reducing the parent colony so much in strength that there will be no further swarms from that one. If you can not get around to clip all the queens' wings in spring, put perforated entrance-guards over all colonies having unclipped queens. It is a good time to requeen during swarming time, and all colonies with young mothers will be less liable to swarm. The best bee-keepers do not keep queens, ordinarily, more than two years for service, and some go so far as to requeen all colonies with young ones where the queens are more than one year old. But the giving a colony a young queen will by no means prevent swarming, although it may have a tendency to discourage it.

*E. L., Victoria, B. C.*—I would refer you for answers to your questions regarding the ocelli to Cheshire's works, "Bees and Bee-keeping," two volumes. The first named is scientific, and the other practical. The prices of these are \$2.50 for Vol. I., and \$3.00 for Vol. II., postpaid. I would also refer you to book entitled "The Honey-bee," price \$1.00 per copy postpaid. The last named is by Thos. W. Cowan, editor of the *British Bee Journal*. I could not give you any idea of the amount of pollen used by a colony during the year. Conditions would vary so, and so much would be used before it was stored, that it would be difficult to give even a rough guess. You can procure a set of large illustrations of the bee, such as could be held up before an audience, at the office of the *British Bee Journal*, 17 King William Street, Strand, London, England. Yes, we have any number of the glass dodecahedron paper-weights, and can supply them to you at 15 cts. each postpaid. With regard to the A B C of Bee Culture, I would say that it is a *cyclopaedia*, and from the very nature of the case it can not be arranged so that one subject leads up to another. Any one who buys a *cyclopaedia* is not expected to sit down and read it from beginning to end. It is arranged in alphabetical order for the purpose of reference. Beginners who desire the A B C should first commence with "Bees;" then take up in their order Hives, Hive-making, Swarming, Absconding Swarms, Comb Honey, Extracted Honey, Robbing, and Wintering. The other subjects may be taken up in the order that they suggest themselves.



EIGHT extra pages this issue.

THE manufacturing interests under the name of E. Kretchmer, of Red Oak, Iowa, have recently been made over into a capital stock company of \$25,000, \$18,000 already having been paid in. Their line of business will be the manufacture of steel and wooden tanks, hives, and other bee-keepers' supplies, the same as heretofore carried on by Mr. Kretchmer. We offer the new company our best wishes and congratulations.

#### HOW THE BEES ARE WINTERING OVER THE COUNTRY.

MARCH this spring "came in like a lion," but on the 8th and 9th it warmed up so we had a chance to go through our bees. We have something like 250 colonies on their summer stands, packed in double-walled hives. So far there has not been a single one lost; and, what is of more importance, our apiarist says they are stronger and more vigorous than he ever saw them before, for he says he doesn't think there is, on the average, to exceed a loss of 100 bees to the colony. Reports over the country so far indicate similar good wintering, and bee-keepers have great reason to feel rejoiced. A year ago at this time, heavy losses were reported everywhere, and our own bees suffered more severely than at any time since the severe winter of 1881-'82.

#### THICK ALFALFA HONEY.

TALKING about thick honey, the following domestic scene is a case in point. We were seated at the table when Mrs. R., looking at me, said:

"Please pass me some of that alfalfa sweet-clover honey which you say is so nice."

"Certainly," I said; and with that I elevated the dish, honey and all, by the handle of the spoon. Of course, Mrs. R. looked horrified, and ejaculated:

"Oh! please be dignified. You are setting a bad example to our son."

"Fudge!" said I. "I wanted to show you both how thick and nice that honey was. If I can take up the dish, honey and all, by taking hold of only the spoon that is dipped in the honey, pass it across the table, the honey must be thick. See?"

Mrs. R. didn't see. I find you can't make a woman see if she is not so inclined. In this case my better half saw in her mind's eye a vision of an overturned dish and her "nice clean table-cloth" all daubed with honey.

After I had made a few more gyrations of the aforesaid spoon with its honey and dish, much to the merriment of the boy and the mortification of his mother, I set the whole thing

down right side up with care. One pair of eyes twinkled and the other pair snapped and I stopped.

This honey came from Arizona; and if I had to wait for it to run out of an inch bung hole in a barrel, I am afraid my patience would be worn out. But, say; the honey is good. But let me tell you that sweet clover mixed with alfalfa gives it a sort of hoar-hound flavor, and at the same time darkens the color slightly. For this, day after day I am inclined to think I should prefer the alfalfa alone; but for occasional use, alfalfa and sweet clover mixed are very pleasant.

#### THE LANGSTROTH MONUMENT.

It will be remembered that, some time ago, the editors of the various bee-journals endeavored to raise a fund to erect a monument to Langstroth; but in spite of our combined efforts that fund did not go much higher than \$100. Soon after, the General Manager of the United States Bee-keepers' Union, now the National Bee-keepers' Association, feeling as we all did that the fund was very small, again took the matter up, with the result that he has raised the amount to something like \$275; and this, it is believed, will erect a very satisfactory shaft.

Some time ago I took it upon myself to ask our bee-keeper poet—the same man who has succeeded in raising the fund to a fair sum, to suggest an inscription that would be suitable to be placed on the monument. In response to that request, Mr. Secor drew off the following:

#### INSCRIBED TO THE MEMORY OF

REV. L. L. LANGSTROTH,

"FATHER OF AMERICAN BEE-KEEPING."

by his affectionate beneficiaries in the Art: who, in remembrance of the services rendered by his persistent and painstaking observation and experiments with the Honey-bee, his improvements in the Hive, and the charming literary ability shown in the first scientific and popular book on the subject of Bee-keeping in the United States, gratefully erect this monument.

Rest thou in peace. Thy work is done.  
Thou hast wrought well. Thy fame is sure.  
The crown of love which thou hast won  
For useful deeds shall long endure.

I have read this over a number of times, and it seems to me it is very appropriate, and very carefully worded. If any one can offer any suggestions, I am sure they will be appreciated by Mr. Secor, and by the friends of Mr. Langstroth who have contributed toward this monument.

I presume the order for the monument will be given very soon now; and when the same is completed, GLEANINGS would respectfully request a photo that it may present it to its readers.

#### THE PURE-FOOD CONGRESS.

The National Pure Food and Drug Congress is now in session in Washington, D. C. There was every indication that there would be a large representation from all over the United States, and there are now strong hopes that the Brosius pure-food bill will finally become a law, for it seems to be regarded favorably in

both the upper and lower houses. Men of all trades and professions, in the interest of pure food and drugs, are represented in the congress.

The National Bee-keepers' Association is represented by Rev. E. T. Abbott, of St. Joseph, Mo. At the previous congress he made a distinct impression, as is evidenced by the fact that he was recognized and placed on important committees.

But it will not be wise to assume that the pure-food bill will finally become a law, as there will be a strong pressure brought to bear against it from the glucose-mixers, and by the food and drug adulterators all over the country. Every bee-keeper, at least, should write his Senators and Representative, urging their support of the bill that will soon come before them. In matters of legislation of this kind, it is never wise to assume that the "other fellow" will do the writing. We have a *representative* government, and our representatives in both the upper and lower houses desire, more than any thing else, to know the wishes of their constituents.

#### GRADING BY PICTURES.

WHEN I attended the convention of the New York State Association of Bee-keepers' Societies at Geneva, President W. F. Marks, at one of the recesses, handed me a photo showing the grading that the Ontario County bee-keepers had adopted. At the time of doing so he explained that the photos that Mr. Niver had prepared at the direction of the State organization were not entirely satisfactory, because there was so little difference between "fancy" and "No. 1" grades. Indeed, some thought his No. 1 was even *better* than his fancy. As long as there was a chance for difference of opinion it seemed to Mr. Marks and his friends that another photo should be prepared showing the poorest specimens allowed in each grade.

Niver's grading is shown on page 393 of our May 1st issue, 1899, and the grading-card given to me by Mr. Marks is herewith reproduced.

It must be borne distinctly in mind that each specimen in the grade above shown is the poorest allowed for that grade. In other words, a section that would grade "fancy" may have a line of unsealed cells next to the wood; but it must be of standard weight, of uniform cappings, and without discoloration or travel-stain; but a section may have every cell sealed, and in appearance be a better and a prettier one than the one shown in the engraving for fancy, but, according to the rule, must be put with the fancy. While it might seem that there ought to be a grade for "extra fancy" to take in sections having every cell sealed, yet there are so few of such sections generally that it does not seem best to have a higher grade.

As to the next lower grade, when we come across a section that is better than No. 1, but not quite equal to fancy, then that should be put in the No. 1 grade; and the same rule would hold true of sections under consideration for No. 2.

I suppose nine readers out of ten will say

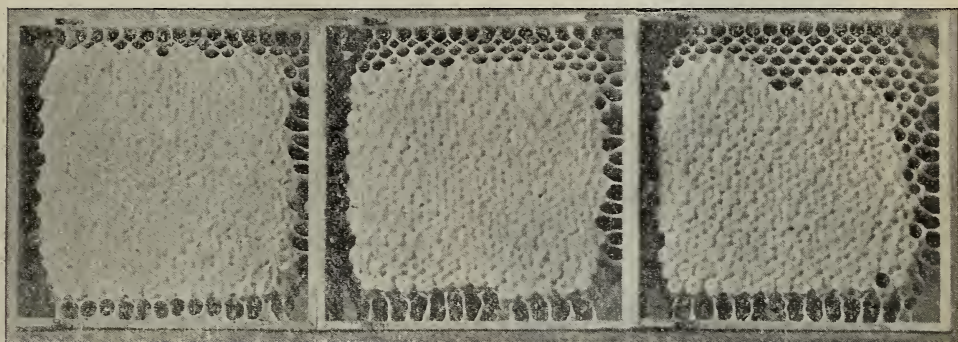


just as I did, that the sections shown below are upside down; but Mr. Marks assured me that this was the way they came from the super. If you look very closely at No. 2 and the No. 1 you will see there is a dip to the cells.

There is just one difficulty with this picture-grading. It is very difficult to select three sections, the poorest of their grade, each of which shall be an average of the poorest. For example the No. 1 and No. 2 below, for instance, are rather unusual in that the first few rows at the *top* instead of the *bottom* are not filled out. As a rule the exact opposite is the case.

It will be seen that the sections above are of the slotted or beeway sort. In this matter of grading it will not do to grade square sections by tall ones; and neither would it do to grade the beeway from plain ones. The conditions of size, shape, and general appearance, should be as nearly alike as possible, so that the only

named—Mr. Porter—during my sojourn in Denver. If there is a family in all Denver who know how to entertain a bee-man, and to do it right royally, it is the Porter people, every one of whom is a bee-keeper, from the youngest up. Mr. Porter's family consists of wife and three children, the oldest 18 and the youngest 14; and before I tell you very much about these people, I wish to introduce them to you. After some persuasion (why is it that bee-keepers are so provokingly modest?) I got the family out on the front lawn in the morning, and, at this time, there was with us Mr. J. E. Lyon, of Longmont, another specialist, and of whom I shall have something to say at another time. I got them out on the lawn as best I could, and pressed the button. The result, shown on page 212, is not all that I could desire, but fairly good for the conditions. The sunlight of early morn is not altogether the most favorable; but as the girls were to be away at school I determined to have a shot.



GRADING ADOPTED BY NEW YORK BEE-KEEPERS.

item to be considered is that of the honey itself.

One scarcely realizes how much an outside condition has to do in affecting his judgment. For example, of two combs equally well filled, an admirer of a tall box will give his preference to the honey in that box, scarcely realizing that his choice was based on the *shape* of the section rather than by its filling.

#### W. L. PORTER, ONE OF THE SPECIALIST BEE-KEEPERS OF COLORADO.

On getting off the train at the Union depot at Denver, and not seeing any one whom I knew, I made some inquiries as to how to get to the State Capitol, in which the Colorado bee convention was being held. As I was about to take the car, some one called out in familiar tones, "Hello, Ernest! here we are!" The speaker was R. C. Aikin, the President of the Colorado State Bee-keepers' Association. He had with him Mr. W. L. Porter, to whom I was then introduced. We three boarded a car, and were very soon ushered into the convention.

It was my very good fortune to be entertained at the home of the gentleman I have just

With a good deal more arguing I finally succeeded in getting permission to use the picture after it was finished.

I said that every member of the family was a bee-keeper. Mr. Porter is what may be called a specialist bee-keeper in the strictest sense—that is to say, I take it that his sole means of livelihood is derived from bees. He has had as many as 700 colonies, but I believe he is now operating only 500, located in five or six different apiaries. He produces both comb and extracted—about an equal amount of each. In extracting, his daughter Mary, the oldest, the one shown in the center of the picture, runs the extractor, while her father and brother bring in the combs and do the uncapping. The younger daughter helps her mother, and occasionally both assist in the yard when the bees are especially crowding.

Mr. Porter has had a varied experience in bee-keeping. Born in West Virginia in 1850, he migrated with his parents northward to Michigan in 1864. His parents assumed the life of pioneers, clearing off the forests. Young Porter, with the rest of the boys, was detained from school to help the father, and the consequence was their early school advantages were limited.

Mr. Porter's first introduction to bees was not unlike A. I. Root's first experience. A colony of bees was flying overhead where he was cultivating. This was too much for the boy. Cultivator and horse were left in the field, and the bees were pursued. They were tracked to a maple, where they clustered fifty feet above the ground. But this was no obstacle—not the least. A man or boy whose heart is on fire with enthusiasm will not stop for a little circumstance of this kind. How young Porter managed to get to the bees, and get them down, is not important, but the bees



W. L. PORTER.

were brought home in triumph. However, during the next winter (a severe one), they died. But this, instead of dampening his ardor, fired it up to the highest point. It is this element in his nature (enthusiasm, and ability to overcome obstacles) that has made him the successful bee-keeper that he is.

In a short time afterward we find him at the Michigan Agricultural College, under Prof. Cook, as a student. His general aptitude for the bee business resulted in his being placed in charge of the apiary of the Agricultural College. He used well his opportunities, and finally became the possessor of some bees of his own. He suffered many reverses, but made the bees of some assistance to him financially in helping him through college. Ill health and a lack of funds finally compelled him to give up his course before he had completed it.

He subsequently drifted to Wisconsin, and formed a partnership with Miss Allyn—a partnership which he says was "very happy and successful." He soon engaged in bee-keep-

ing again, meeting with his usual success. But again ill health caused him and his wife to move to the land of gold, sunshine, and alfalfa honey, in 1881, and here he has cast his lot and his fortune; and if I may judge from general appearances he has secured a fair share of the sunshine, of the alfalfa honey, and the gold which it brings. A man who knows no obstacles too great to overcome, richly deserves this success.

While at the Porter home I was delighted with the graino coffee, and subsequently learned that it is a honey coffee that Mr. Porter himself prepares. The flavor was so delightful that I finally asked for the recipe for making, and this Mr. Porter has kindly given me as follows:

#### HONEY CEREAL COFFEE.

5 lbs. fresh wheat bran; mix with 2 lbs. rye flour, 2 lbs. alfalfa honey. Mix honey with 3 pints of boiling water. After the honey and water have come to a boil, pour into the bran mixture. Stir thoroughly, and knead to a stiff dough; put through a domestic meat-grinder to separate them. Dry in a warm oven. Brown the same as coffee. For a coffee flavor, add two pounds best Mocha and Java. Have it all ground and put in air-tight cans for future use.

I am not very fond of strong coffee; but this graino honey drink is one of the best that I have ever sampled. I suggested to Mr. Porter that as he had, in the estimation of his friends, made up a better graino coffee than any of those on the market, he should advertise and sell the same as alfalfa-honey coffee. "No," said he, "I have something else to do. I will give you the recipe, and you can give it to the bee-keepers."

Bee-keepers are fond of "taffy"—that is, providing it is the right kind. Miss Mary Porter is an expert in "taffying up" bee-keepers—at least that which I received was some of the nicest I ever tasted. It is made of alfalfa honey. Her recipe for making is as follows:

#### HONEY TAFFY.

Boil extracted honey until it *hardens* in cold water. Pull until white. Any quantity may be used. One pound requires about twenty minutes' steady boiling.

MARY C. PORTER.

Whether there is something in the pulling or in the boiling, or in that delightful alfalfa honey, or in some other peculiar method of handling, I can not say; but the honey taffy that I tasted at Mr. Porter's is certainly the best I ever tried.

Mr. Porter, at the time of sending the other recipes, sent one also for fastening labels on tin. It is as follows:

#### RECIPE FOR HONEY PASTE FOR PUTTING LABELS ON TIN.

Take two spoonfuls of wheat flour and one of honey; mix the flour and honey, and add boiling water to make right thickness. This is fine for labels or wall paper where paper will not stick with ordinary paste.

W. L. PORTER.

Mr. Porter's method of marketing his crop is best told in his own words. He writes:

I have had a local market for all honey. When I came to Colorado all the honey in market was from California. My honey sold readily at 25 cts. in a wholesale way—i. e., to the grocers, for comb, and 20 cts. for extracted. Honey for our local trade I put in  $\frac{1}{2}$  and  $\frac{1}{4}$  jelly-glass and one pint Mason jar, but sell a great deal to customers in gallon and half-gallon pails, and in five-gallon cans with screw tops. The last three years I have marketed most of my comb honey through our honey association.





Consider the lilies of the field, how they grow; they toil not, neither do they spin; and yet I say unto you that Solomon, in all his glory, was not arrayed like one of these.—MATT. 6:28, 29.

have thought best this time, dear friends, to give you a glimpse of *other* homes. I was impressed to do so on account of the many exceedingly kind letters I have had since I became interested in flowers, and the flowers that grace and brighten the homes where GLEANINGS goes on its semi-monthly visits. First we will read a letter from a home in North Carolina:

*Dear Mr. Root:*—For some time past I have been reading with pleasure of the interest you are taking with flowers. I am glad you are finding them interesting and lovable. I regard them as little missionaries sent from God to teach us beauty, purity, and innocence. Perhaps you have read Mrs. M. Crawford's essay on pansies. I have, and think it beautiful. Surely the flowers have a mission to perform. And have you noticed that lovers of flowers are generally lovers of goodness and purity in other things? I do not remember knowing any true lover of flowers that was a real mean person. Still, I know some fathers of families who deny their children the use of a wee bit of ground for flowers, when perhaps these same fathers own hundreds of acres, because "they are not fit to eat or to wear."

Well, our home is a poor and humble one; but the friend or stranger passing our gate is quite sure to see flowers in season; and our little ones are encouraged to love and care for the flowers.

Roxobel, N. C., Feb. 26. MRS. GEO. H. BARNES.

After I had spoken of my forcing-bed, and of how much pleasure it gave me, there were many inquiries in regard to making a forcing-bed to be placed in a window in the average home. In our last issue I tried to tell you how to make something of the kind. In order to confine the air so as to keep the sand and cuttings moist and damp, tops and foliage as well as roots, it occurred to me a little bell-glass or vase inverted over the plant would be just the thing. Then I got to thinking that, for very small cuttings, a glass *dish*-cover would do very well; and if the edges set down into the sand it would make it perfectly tight. In looking around the store I found some cheap glass butter-dishes, and I have already taken one of these, filled the lower part with sand, put in it some cuttings, and it seems to answer the purpose perfectly. While visiting my sister a short time afterward I saw that she had inverted a fruit-jar over a coleus that did not seem to thrive in the dry air of the home as it did in the damp air of my own greenhouse. Then I was reminded by the following letter that I had not really struck on any thing *new* after all; and so we have something from a home away off in Nebraska:

*Mr. Root:*—I am very much interested in house-plants—have a bay-window full, blooming now. I have just started slips, for beds, in tin cans. I put about half a dozen small ones in each can, and cover with a tumbler. They commence growing right away, and I hardly ever lose a slip. We find your Home talks very interesting.

Mead, Neb., Feb. 28.

MRS. JAY WILLEY.

And now we have something from a home away off in Quebec:

Your account of the coleus makes me wish to try to raise some from seed. I have one now, but a very dark one; but there is a beautiful one in the house, owned by my sister-in-law, which reminds me of the one you describe; but the colors are not the same. I only wish I could tell you about it. The old leaves change in color, and the young leaves are again very different. All have a golden edge.

Kingsey, P. Q.

MRS. J. C. EVANS.

The jadoo fiber, of which we have been furnishing samples, is perhaps the best thing in the world to start seeds of coleus or any similar plant where the seeds are very small. The same forcing-bed or dish I have been talking about is what is needed. I think I would make the jadoo about half sand. Mix it with a sieve, then pack the surface down smooth with a little bit of board. Now sprinkle your seeds very evenly over the surface, taking quite a little time to do it carefully, because if you get too many in one place your plants will be greatly crowded. After the seeds are scattered on the surface, get them into the ground by carefully sprinkling with a fine spray, something as women sprinkle clothes. Do not let any big drops of water fall on the surface, for it would throw the seeds out of place; but get on water enough to make the jadoo and sand as wet as mud. If you manage just right, the sprinkling will sink the seeds fully as deep as they need. Then put on your cover (a pane of glass, a glass tumbler, dish-cover, or whatever it is), so as to keep the jadoo moist and damp. Set the dish where it can have as much sun as possible; and when the sun does not shine, the plant should be kept quite warm, say between 70 and 80, or so the dish or soil will always feel quite warm to your hand. In this way we secured some 200 or 300 coleus-plants from one paper of seed. The same treatment you give cuttings to make them grow will cause any seed to germinate in very much less time than it would in the ordinary way. After the plants come up give them air gradually, and do not keep the soil quite so wet. After you get the knack of it, it is really astonishing to see how cuttings, seeds, and every thing else will grow and thrive under the influence of air, warmth, and moisture. When the little plants begin to crowd each other, put them in the same jadoo and sand in little pots. I prefer the very smallest size of thumb pots to start with; and when you get every thing to working right, in three or four days these little thumb pots will be packed full of roots; and it is just fun to give them more room as fast as they demand it.

Some will say this is too much fuss and bother, and will suggest putting them in a larger pot, so as to save so much shifting. But your plant will grow twice as fast if you commence with a small pot, and shift it gradually to larger ones. Besides, these little pots take ever so much less room. We have some little boxes to set them in. See description in our last issue. A whole dozen plants can be watered all at once by simply dipping the box, pots and all, in a pan of water and then lifting them out again.

And now we get the following excellent suggestions from a home in Pennsylvania:

*My dear Friend:*—How delighted we are with your

flower talks! I read every word of it to Mrs. L., and she said when I read last GLEANINGS, "Oh if we could visit Mr. Root, and see his new pets!" Yes, Ernest caught you just right. How thankful we are for that picture! Do continue your delightful floral talks. I never yet met a family who were lovers of flowers but were good citizens, good neighbors, and good friends. When I come into a house where there are plenty of plants and flowers well cared for I feel sure I shall also be cared for and kindly treated, and I never was disappointed thus far. Could you give us some advice on window gardening as so many of us have no greenhouses? I. W. LIGHTY.

East Berlin, Pa., Feb. 23.

My good friend L., I have been considering this matter of window gardening, and am making some experiments in that line. Thanks for your kind words.

Here is a short note from a home in North-western Ohio:

It beats all how the women-folks take to GLEANINGS since you have gone into the flower business. My wife, mother, and sister all read it now, and before they would hardly notice it. They want you to send them some of that jadoo for growing flowers.

Liberty Center, O., Feb. 26.

S. A. PALMER.

The next comes from my own sister, just a few years younger than myself. She is the mother of eight promising children, away up in the northern part of Michigan. She did not send this for print, and may be I shall get into trouble, but I think I will risk it. If that Michigan State bee-keepers' convention (near Manistee) had not been in the winter time, and just when I had a little touch of the grip besides, I should have paid them a visit then.

When I opened GLEANINGS this morning and saw Amos sitting on the edge of a board with his specs at half mast I just shouted. He looked so natural it seemed as though he must hear me and respond as he always does. I should enjoy sitting down among the "posies" with him. My few plants that I have always had by me have seemed almost as dear as my own babies, and I think the poor things feel and show neglect almost alike. I have only one plant in bloom now besides a few hyacinths, and that is a little plant called "Impatiens." How well Amos looks this winter!

MRS. C. D. GARDNER.

Manistee, Mich., Feb. 21.

Now, it is a little funny that quite a number have written me in regard to this little plant "Impatiens." At the same time she was admiring her own plant, I had been uttering exclamations of delight over my own. I did not know what it was for quite a spell. I bought it at a greenhouse, but the proprietor said he did not know the name of it, but his wife (who was away) did. It is such a shy, diffident, frail little thing you will almost hold your breath while you look at it; and when the weather becomes warm enough so the shy little flowers can break their wax-white covering, and peep forth with such brilliant scarlet tints, no wonder the women-folks fall in love with it. I think it is a relative of the wild touch-me-not, figured and described in the A B C book. The name "Impatiens," I have guessed, came from the fact that the seed-pods could not even be touched when they were dead ripe. Why, somebody told me if you pointed your finger at them, when they were just ready to explode, they would pop and fly all to pieces. Now let me digress a little right here.

In the *American Florist* you will find quite a number of persons who make a business of furnishing rooted cuttings—I suppose mostly to greenhouse men. These rooted cuttings

are from 50 cents per 100 up to \$2.00 or \$3.00 (charges paid by mail or express); and with a forcing-bed like the one I have described I would rather have a rooted cutting than a good many full-grown plants that the catalogs charge 10 to 15 cents apiece for. We grow the rooted cuttings by the hundreds, almost without failure. They take up but little room, comparatively, and the biggest fun of the whole business is to see them grow under your care and skill. Now, I do not know whether these people who advertise want to sell plants directly to retail customers for two or three cents apiece or not; but I will tell you my way. I looked over the list, and told them I should like a few of such and such sorts. Then I inclosed 25 cents, and told them to send me as many as they thought proper by mail for the stamps inclosed. So far they have all given me a good many more than I expected, and a good deal *nicer* plants than I expected. And now I come to the whole point of my digression. Some one advertises *Impatiens Sultana*, rooted cuttings, for only \$2.00 or \$3.00 a hundred. I will here give you the names of two advertisers whose plants have pleased me especially:

C. Humfeld, Clay Center, Kan.; S. T. Danley, Macomb, Ill.

Now I wish to talk a little more about rooted cuttings, or taking slips from plants and making them root if you choose. One day my coatsleeve caught the top of an obconica primula, and broke it off. There were several blossoms and quite a lot of buds. I put it in the sand in the forcing-bed, thinking it would look ornamental among the colei and other cuttings; but it not only looked ornamental, but every bud opened and blossomed as well as on the original plant, and finally took root, so I had a plant in full bloom, potted in a thumb pot. Now, this is not all. The same coatsleeve caught on one of my favorite coleus-plants, and snapped the top off. I stuck the top in the sand. It sent out roots in about four days, and made a *nicer* and more *thrifty* plant than the rest of them that did not have their tops broken off. I have two or three times cut the top right off from a sickly plant that was just dragging along, and it got along better without any roots at all, or without the old roots and old soil that had been bothering it.

Right along in this line let me remark that, some time ago, I paid 15 cents for a mannetia-vine. It was a miserable-looking thing when it came, and, although I tried every way to make it live, it lingered along about two months and then died. In the list of rooted cuttings I saw mannetia-vines listed at 2 cents each. I sent 13 cents for half a dozen. I received 11 nice little plants, and 4 of them were in full bloom when they came through the mail. I put them in thumb pots, and carried them around among the women-folks in the factory, as I do every few days when I have something nice. Well, the fun that little bit of plant made with its brilliant blossoms (something like a honeysuckle), was worth ever so much more than it cost. As soon as Mildred, my little granddaughter, saw one it



captivated her at once by its diminutive size. I told her if she would put it in a saucer with a tumbler over it, and keep it warm, it would grow into a big plant.

Now a word about the mission, or, if you choose, the *power*, that flowers exert in this way. Sometimes along in the afternoon, when the girls and women in the factory are getting to be fatigued, I slip in quietly with a little tray of new coleis, or may be some plant in bloom. One day I took one of our azalea-plants in a neat new pot, and went through the work-rooms, slipping up quietly so they did not know I was coming. I would choose a stool or chair where I could set my plant down, put it down very quietly, then as somebody turned around to see what was going on I watched the effect of the gorgeous array of bloom, on the sober and perhaps wearied-looking countenances. Many of the younger girls would spring right up from their chairs and hold up both hands. Then I would hear a chorus of expressions like this: "Oh! did you ever see any thing so lovely?" "Why, Mr. Root, did that wonderful plant actually grow and blossom in your little greenhouse?" The effect all through the room among the men, as well as women, made me think of a spring of cool sparkling water in a desert land. Some of the men-folks would say, "Why, Mr. Root, that plant would please my wife better than any thing else in the whole wide world."

And this brings us to the matter of *selling* plants. Here at home, through the letters, the question is asked, "Mr. Root, are you going to sell plants?" Dear friends, I do not believe that God has called me to grow plants for sale. I am too old to go into a new business; and even if that were not the case, I do not believe God wants me to sell them. Through GLEANINGS I will tell you where they may be bought at very low prices. I will tell you how to grow them, and I may possibly give some away to the mothers who read GLEANINGS, just as I am giving away samples of jadoo. Several of the kind letters have alluded to the fact that God has sent flowers to this world of ours to preach needed sermons. They are especially the things to give away. I do not believe much in presents of gold or silver—no, not even at Christmas time; but I *do* believe in giving inexpensive flowers—not cut flowers, but flowers in little pots, that will grow. You can buy little bits of pots for less than half a cent apiece almost anywhere. Then you can get beautiful rooted cuttings for a cent apiece, or may be two or three cents. These cuttings can be multiplied by a forcing-bed or by the use of tumblers and saucers almost indefinitely. You can not only multiply the beautiful plants you have gotten hold of, but you can develop new varieties by selecting a bunch or leaf that shows some new feature or "sport," as it is called. A great deal has been done in developing new and wondrous creations among florists, but I have got just enough insight into the business to feel that there is a great unknown and unexplored region in this very direction. The florists of our land *ought* to be good men.

And, by the way, there are quite a few *women* who grow plants and send out beautiful catalogs. As a rule their prices are surprisingly low.

Now, if there is anybody whose eyes alight on these pages who would like the business of furnishing rooted cuttings by mail to the readers of GLEANINGS, I will give their names free of charge in our next issue. Why, the thought fairly makes me young again. Every person, no matter where situated, nor *how* he is situated, may develop these wondrous beauties right from the hand of the great Father above. He can do this in his own home right in his own dooryard; and when he (or she) becomes expert, such person may make it a profitable business in almost any neighborhood on the face of the earth. The knowledge and skill acquired in working with plants helps one not only to be a better farmer or market-gardener, but it has more or less to do with caring for these bodies of ours, and teaching us how to live in harmony with all animated nature. May God go with you and bless you as you learn of him through studying and working with the plants he has given us.

We will close with a letter from our good friend Dr. Miller, about roses. I asked him if he could tell me the name of a little rose I saw years ago. It had little blossoms not much larger than a dime, and it bloomed in little pots about the size of a teacup. May be some of the rest of you know of such a rose that was in fashion thirty or forty years ago.

*Dear Friend Root:*—You can hardly understand how delighted I am that you have got your eyes open to see the beauties there are in God's wonderful gift, the flowers. It reminds me of the words of the psalmist, "Open thou my eyes, that I may behold wondrous things out of thy law," Ps. 119:18. The wondrous things are there all the time, only we need our eyes opened to see them.

You say, "Why didn't you tell me, years before, the wonderfully nice things there are about roses?" Bless your heart, I've always tried, but your eyes weren't open. Now that they are opened, I've a longing for a good long talk with you. How I should enjoy it!

The miniature rose you saw years ago must have been, I feel pretty sure, double instead of single. It was probably a Bengal or China rose, the small'er kinds of which were quite popular 50 years ago under the name of button roses, or fairy roses. Polyantha roses have come in since, and have supplanted them altogether. Your favorite Clothilde (not Chlotilde), Souper, is a polyantha, although very different from the others, Clothilde being the largest in the class. I have never seen any thing smaller than some of the polyanthas. They are a little mixed, I think, as to name, and I have some doubt whether all name them alike; but if you order the smallest flowering polyantha you will be likely to get what you want. If you must use a name, I would try paquerette or mignonnette. All are white or pale tinted.

I wish you could see a rose that stands almost in reach of where I sit writing. It is a Princess Bonnie, has been in bloom a week, and has given enough pleasure to the household to pay for its care for a whole year, although it will be expected to give many another bloom. The rose is more than three inches across; indeed, from tip to tip of the outer petals is more than four inches; each petal of a charming red is delicately veined, and throughout its whole week of life it has been breathing out a delicious perfume. It is an exceptional thing that a rose is allowed to fade upon its bush, as this one is doing, for when it gets to its best it always goes to the church or to the side of some sick-bed. It is thus doubly enjoyed.

Princess Bonnie is a comparatively new rose, and I haven't known it years enough to tell whether I should prefer it or Souvenir de Wooton (they are a great deal alike), if I could have only one red rose for the window. Meteor is good; a darker red, but lacks fra-



grance. Although red predominates among outdoor roses, especially the hardy ones, winter reds are decidedly scarce. The three above mentioned are good indoors and out, half hardy; and half-hardy roses would probably winter outdoors with protection at Medina. They are prolific bloomers—a desirable trait.

That reminds me that the terms "ever-blooming" and "perpetual," as applied to roses, are decidedly misleading to a novice. He reads about them in the catalogs, and expects a plant that will never be without a blossom, only to find that a great deal of the time no color but green is to be seen on the bush. Yet it is a pleasure for me, this minute, to glance up at the window and see the green buds, promise of red, white, or yellow in the future. Another glance makes me retract—there is something more than green on many a plant, although no blossom. The rich reddish-brown color of some of the young leaves is charming to one who has the love of roses in his heart. A sentence in your last letter I've read over several times: "Is there any thing prettier than a new shoot that starts up unexpectedly beside the old one?" The dainty grace and color, as it unfolds, are just *entrancing*." I don't know. Which is prettier—a sweet girl baby, or the same baby when she gets to be sixteen? The shoot you speak of is the little baby, and the maiden is the unfolded shoot you speak of after it has unfolded its leaves to full size, and they are hesitating whether to be brown or green, with a delightful blending of both colors.

I see you have Kaiserin Augusta Victoria. If I could have only one white rose in the window, I think it would be that same Kaiserin; of purest white, graceful as a half-opened bud or full-blown flower; faithfully blooming summer and winter, it is hard to excel. Marie Lambert doesn't compare with it in quality; but if quantity of blossoms is what you want, no white rose will outdo Marie Lambert. Bride is a good white. Clothilde Souper, the largest of the polyanthas, comes near being a white, sometimes well shaded with pink; is a prolific bloomer, with fine fragrance.

When you buy cut flowers of the florist nowadays, the yellow roses that you generally buy for Marechal Niel are really Perle des Jardins, the latter being much the better rose for the window. A sport from Perle called Sunset is a beautiful thing, with varied tints not unbefitting its name. After all, I believe I'd rather have Etoile de Lyon, a deeper yellow than Perle, and a freer bloomer.

Let me tell you the two chief objects I have to live for now. One is to have a normal class in every Sunday-school to recite in the regular Sunday-school hour (of course I'm interested in every branch of Sunday-school work, but that's the special point I work hardest upon); and the other is to have the young Presbyterians throughout the State of Illinois be interested in supporting a special missionary of their own, and to learn to "give tithes of all that they possess." In this last I have a special opportunity, as I am permanent chairman of the synodical committee on Young People's Societies, so I am practically at the head of the Christian Endeavor work among the Presbyterians in Illinois. I suppose you know that Presbyterians have the largest numbers in C. E. work. Our little C. E. society in Marengo give \$400 a year to support Mrs. Swallen, a missionary in Korea. Now, if I can do only just a little in the two directions I have mentioned, and if, as a kind of side show, I can do just a little speck to help open the eyes of some to see in flowers the beauties that you and I see, why, I shall be content to—live just as long as I can.

I enjoyed those pictures in last GLEANINGS.

May the Lord make your life constantly brighter and more useful as he constantly opens your eyes to new beauties.

C. C. MILLER.

Marengo, Ill., Feb. 23.

#### SCIENCE AND SUPERSTITION CONTRASTED; MORE ABOUT WATER-WITCHING.

Our good friend Gregory, the veteran seedsman of Marblehead, Mass., recently remonstrated because the silly superstition of water-witching was every little while brought forward with the claim that it has a place in true science; and a writer, later on, was allowed space in one of our leading agricultural papers to talk in a very patronizing way about friend

Gregory because he would not admit water-witching was scientific. Now, a good many very good people (and perhaps well-educated people along certain lines) are making a big mistake in this very matter.

I wonder if I can not make the matter a little plainer than I have heretofore. The unreasoning advocates of this superstition tell us that even our intelligent scientific men, our genuine professors in colleges, do not know *every* thing—that is, they get behind the times occasionally. Of course, we will admit that they do not know every thing; but there are certain lines in which they are not likely to be behind the times. Our experiment stations, the authors of our text-books, and the heads of our scientific colleges, are compassing the face of the earth (going clear to the North Pole, for instance) for real scientific facts, and nowadays there is scarcely a thing that eludes their grasp. Let us, if you please, contrast the X rays discovery with water-witching. The latter has been before the world for ages. No scientific man accepts it; or if he does, he ought to be *ashamed* of himself. It will not bear the sharp searchlight of modern investigation for an instant. But how is it with X rays? It came into the scientific world like a meteor out of a clear sky. The news of its discovery was heralded everywhere, and it *succeeded* everywhere with everybody.\* The invention came along the beaten track of true science. Why, I do not remember ever hearing anybody say he "did not believe it." There is no chance to express disbelief, because scientific men everywhere held the thing right up before the eyes of the people, and demonstrated that one could see a pair of shears right through the family Bible (or dictionary), and that you could see the nails and spikes in a stick of timber—yes, even through a foot or two of the soundest timber in the world. The X ray apparatus was a complicated arrangement, and well might one wonder that human ingenuity ever struck on the chemical and mechanical complications necessary to bring it out. The more recent wireless telegraphy came in the same way, along the beaten track of true science, and as a reward for honest hard work on the part of those who had made themselves masters of the accumulated knowledge of the world along the line of electrical and other science. The water-witching, with a silly forked stick in the hands of a still sillier person, will not bear investigation of any kind. It is not along the track of any science; in fact, if there is any truth in it we must admit that it reveals a new force in nature (just the same as the Electropoise and all of its imitations and combinations). Why do not the water-witches go before some scientific men and then have the matter recorded in our scientific books? How would it look, for instance, in our school text-books? But X rays and wireless telegraphy will be taught in

\* Water-witching works with only a certain favored few. X rays, wireless telegraphy, and all true science, work alike with everybody everywhere. When you get into spiritism you are told the spirits will work with some people (mediums) and not with others. This will do for witchcraft, astrology, water-witching, etc.: but with all true science never.



schools, even if it requires a new edition of text-books to bring it out.

One man did consent to go before an experiment station, and prove his ability to find where to dig to get water. He was a gray-haired veteran, and was an honest man. This we know, because, when one of our bright young students asked him to go over the ground *blindfolded*, that he had just been over, and see whether his forked stick would do the same thing when he could not *see*, he at once consented. I do not know the exact outcome, only that the stick would not work, or else it worked at points so contrary to the stakes he had set first when his eyes were open, that he owned up at once he had been all his life under the influence of a delusion. Yes, he had actually grown gray in blindly leading the blind, in supposing he knew better than anybody else where to dig to find water.

Now, there is no use in telling these old stories of the wonderful things that have been done. They prove just as much, and no more, as do the stories that are now floating everywhere about being cured by Electropoise or modern telepathy or "absent treatment," whichever you are pleased to call it. Some years ago, when they were going to "drown me out" by the stories about manufactured comb honey, I offered \$1000, as you may know, to the person who would find a single pound of such honey for sale on the market. No such thing could be found (and has never been found), and now the story is pretty much killed out. I wonder if it would help silence these persons who speak so patronizingly of the scientific world, if I were to offer \$1000 for a man who would go before an experiment station and go through with his incantations with a croched stick, and make them tally, when led about blindfolded, with stakes he had previously set with his eyes open. If there is not any such man, can not our agricultural papers and everybody else relegate this whole thing to the domain of witchcraft and astrology, exactly where it belongs?

#### THE LATEST IN REGARD TO DR. DOWIE.

The *Ram's Horn* for March 3d has devoted that whole issue to exposing Dr. Dowie; and I am very glad indeed they have done so. While we may not be able to comprehend how it is that a man can quote Scripture, preach as many good sermons as he has done, and also by his prayers give actual relief to so much suffering, yet it stands out strongly and clear that this man, notwithstanding the amount of good he has done in the ways mentioned, is a humbug and fraud. It is not any use for him or his followers to make any "explanations." I am personally acquainted with some of those who have felt it a Christian duty to show him up before the world, and I have known for years of the life and character of others who have been intimately associated with him for one or more years. In regard to the healing, Satan *may* have power to heal—at least to a certain extent. Hypnotism and mesmerism, or something along that line, may account for other cases; and finally I firmly

believe that many people are healed by putting their trust in God, and going to him in prayer, and no doubt Dowie was instrumental, more or less, in showing them the *way* to do this. Successful healers are now starting up all over the world at such a rate that it seems as if humanity *must* learn a great lesson. Electropoise, oxydonor, and other humbug apparatus, have been doing the same thing that is now done without any apparatus or any thought or care, on the part of the healer; and the men who heal, and do it *successfully*, mind you, run all the way from low-down criminals and sots to those who may be partly honest in thinking God has given them miraculous power to heal the sick. No wonder so many people are going into the "healing" business; for the proprietors are rolling in wealth while their victims save up their earnings from poverty and severe everyday toil.

When Dr. Dowie went over his rigmarole about doctors, drugs, and devils, I protested. He said one Chicago daily was persecuting him without cause, and I thought it might be true; but when he hurled his curses at the whole Chicago press, Christian papers and all, I knew something was wrong. A little later, when he began denouncing Christian churches and Christian ministers, and demanding that his followers should cut themselves loose from all such organizations, I felt pretty sure of what the final outcome would be. If you want proof that can not be set aside, send 5c for *Ram's Horn* for March 3. It is published at 110 LaSalle Ave., Chicago, Ill.

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#### TEACHING HYPNOTISM, MESMERISM, ETC.

Some little time ago I mentioned a professor who advertises to teach anybody how to hypnotize, etc. Here is a letter from one of our bee-keepers in regard to the man and his business. I have omitted name and address:

*Dear Uncle Amos:*—Some time ago I saw you published the hypnotism fellow here as a humbug. You did right. It is the worst humbug out. I just saw in our daily paper that their postage per day was—just think—\$50 to \$75. It takes two men twice a day to carry the mail from their office to the postoffice, in a box with handles on like a honey-crate. The post-office officials can't stop it, as he says he advertises to sell them the book for \$5.00, and they gladly send him the \$5.00. I don't think one in a thousand who purchases a book ever learns how to mesmerize any one. This firm is piling up the money, and it mostly comes from the working class.

Our friend is right. The people who send this man \$5.00 for his worthless book are of a class that do not know any better than to believe that he can really teach hypnotism, so that any one who gets the book can hypnotize people, and thus manage to get ahead of their fellows. One might be tempted to say it serves them right. Well, I think our laws ought to protect our youth and people who are ignorant and unwary; and, once more, I *do* think the editor of any respectable paper should refuse space to such an advertiser; and the average editor of any paper knows very well that such advertisements are downright swindles and nothing less. Perhaps this is not a case of robbing *sick* people, exactly; but it *is* robbing the credulous, and people who do not know any better.



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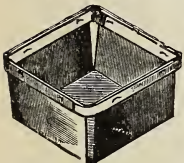
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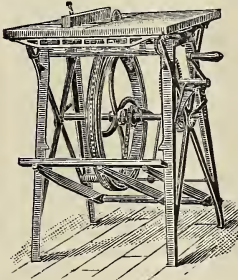
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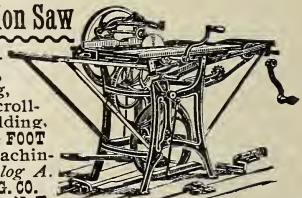
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